

# EAST-WEST TRADE AND TECHNOLOGY TRANSFER

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HEARING  
BEFORE THE  
SUBCOMMITTEE ON INTERNATIONAL FINANCE  
AND MONETARY POLICY  
OF THE  
COMMITTEE ON  
BANKING, HOUSING, AND URBAN AFFAIRS  
UNITED STATES SENATE  
NINETY-SEVENTH CONGRESS

SECOND SESSION

ON

THE EXTENT OF TECHNOLOGY TRANSFERS FROM THE WEST  
TO THE SOVIET UNION DURING THE PAST DECADE AND  
THE CONTRIBUTIONS SUCH TRANSFERS HAVE MADE TO  
STRENGTHEN THE SOVIET MILITARY-INDUSTRIAL BASE

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APRIL 14, 1982

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# CONTENTS

WEDNESDAY, APRIL 14, 1982

|                                                   | Page |
|---------------------------------------------------|------|
| Opening statement of:                             |      |
| Senator Heinz .....                               | 1    |
| Senator Garn .....                                | 3    |
| Senator Proxmire .....                            | 6    |
| Senator Armstrong .....                           | 9    |
| Additional articles received for the record ..... | 96   |

## WITNESSES

|                                                                                                             |        |
|-------------------------------------------------------------------------------------------------------------|--------|
| Fred C. Ikle, Under Secretary for Policy, Department of Defense, accompanied by Dr. Stephen Bryen .....     | 17     |
| Western government credits for the U.S.S.R. ....                                                            | 19     |
| West Siberian pipeline .....                                                                                | 20     |
| Cocom meetings .....                                                                                        | 38     |
| Eximbank negotiations .....                                                                                 | 39     |
| Establishing a new agency .....                                                                             | 42     |
| Cocom publication lists not published .....                                                                 | 44     |
| Enforcing controls .....                                                                                    | 45     |
| Exports of military technology to the Soviets .....                                                         | 47     |
| Polish loan credits .....                                                                                   | 49     |
| Effect of pulling the plug .....                                                                            | 51     |
| Answers to subsequent written questions from Members of the Committee .....                                 | 40, 53 |
| Paper titled "Soviet Acquisition of Western Technology" .....                                               | 23     |
| List of technologies which pose the greatest risk to U.S. security .....                                    | 38     |
| Lawrence Brady, Assistant Secretary for Trade Administration, Department of Commerce .....                  | 58     |
| Growing Soviet power .....                                                                                  | 58     |
| East-West trade policy review .....                                                                         | 59     |
| Siberian pipeline assistance .....                                                                          | 60     |
| Prepared statement .....                                                                                    | 63     |
| Impact of illegal transfers .....                                                                           | 86     |
| Prosecutions .....                                                                                          | 88     |
| Congressional concerns .....                                                                                | 89     |
| Completion of pipeline .....                                                                                | 90     |
| Conscript labor .....                                                                                       | 94     |
| Answers to subsequent written questions from Senators Garn and Heinz ..                                     | 74     |
| Ernest B. Johnston, Deputy Assistant Secretary for Economic and Business Affairs, Department of State ..... | 106    |
| Effectiveness of CoCom .....                                                                                | 107    |
| Exports from third countries .....                                                                          | 108    |
| Exports to Iraq .....                                                                                       | 121    |
| Delay construction of pipeline .....                                                                        | 123    |
| Rescheduling the Polish debt .....                                                                          | 125    |
| Answers to subsequent written questions from Senators Garn and Heinz ..                                     | 112    |
| Edward J. O'Malley, Assistant Director, Federal Bureau of Investigation, Intelligence Division .....        | 127    |
| Soviet intelligence activities .....                                                                        | 129    |

## EAST-WEST TRADE AND TECHNOLOGY TRANSFER

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WEDNESDAY, APRIL 14, 1982

U.S. SENATE, COMMITTEE ON BANKING, HOUSING, AND  
URBAN AFFAIRS, SUBCOMMITTEE ON INTERNATIONAL FI-  
NANCE AND MONETARY POLICY,

*Washington, D.C.*

The subcommittee met at 10:35 a.m., in room 4232, Dirksen Senate Office Building, Senator John Heinz (chairman of the subcommittee) presiding.

Present: Senators Heinz, Garn, Armstrong, and Proxmire.

### OPENING STATEMENT OF SENATOR HEINZ

Senator HEINZ. The committee will come to order. At the outset, let me apologize to our witnesses and colleagues. I had to testify down at the U.S. Special Trade Representative's hearing room this morning at 10 a.m. and the traffic was a little heavy coming back. So we're getting off about 5 minutes behind schedule.

But today, the subcommittee will be hearing testimony on the subject of East-West technology transfer. There is probably no issue more important to our national security than that of technology transfer. Advanced technology constitutes the major advantage which we in the West have over our potential adversaries in the East. Without that qualitative edge, we would be vulnerable to the numerical advantages held by the Warsaw Pact. With it, we maintain the precarious military balance between East and West. While the security thus afforded has at times yielded a tenuous margin of security, it has, nonetheless, been sufficient to enable the West to pursue and achieve an unprecedented level of material prosperity. This shield of qualitative superiority, however, may be in danger of crumbling.

Today's hearing will explore a number of important questions concerning Soviet attempts to overturn the military balance through East-West technology transfer.

First, what is the scope and nature of current Soviet attempts to penetrate our high technology industries in order to obtain the technology necessary to advance their military potential? What is the scope, nature, and relationship of high technology trade to the overall Soviet threat?

Second, how important is the Soviet Union's access to Western credit and foreign exchange to this entire process of technology transfer? Might this be an effective nexus of controls?

Third, how much can we expect as a result of the recent high-level meetings of CoCom? Does our allies' administration of export controls differ from ours, and if so, how does this affect the administration of controls? What are the long-range prospects for CoCom cooperation? Are there particular problems in gaining cooperation from non-CoCom countries?

Our witnesses today consist of four representatives of the administration who will discuss the status of efforts aimed at tightening export controls, enforcing those controls, and obtaining allied cooperation in those efforts. Because of the sensitivity of some of the testimony, the final portion of the hearing will take place in closed session.

I hope that everyone fully understands that the Soviets have attached the highest priority to obtaining Western technology which can add to their military potential. We know that substantial acquisition has been taking place through covert means. We know that intense competition exists among the Soviet intelligence services to be the first and most successful at acquiring Western technology. Part of the effort to thwart those espionage activities must be undertaken by our intelligence and counterintelligence agencies and this will be discussed, as I mentioned, in our closed session. But an equal, and more important, effort is efficient enforcement of the Export Administration Act. Indeed, without the existence of the Export Administration Act, the Soviets could obtain most of our technology through noncovert means.

We have reason to believe that subversion of the Export Administration Act, through inadequate enforcement, insufficient private sector procedures, and illegal activities, constitutes perhaps the major source of technological leakage to the U.S.S.R. and the Warsaw Pact.

I am happy to see that the Commerce Department has recently announced a program to enhance its Enforcement Division. But, as I'm sure that Secretary Baldrige would agree, much remains to be done to increase the effectiveness of our enforcement efforts.

If the Soviets have assigned the highest priority to obtaining Western technology by any means at any cost, we must assign a similar priority to our efforts to counter Soviet attempts. Last year, I introduced and managed a bill which substantially increased the penalties for violations of the Export Administration Act—up to as much as a \$1 million fine and 10 years in prison per violation. Such laws, however, are likely to lose their deterrent effect if inadequate enforcement or plea bargaining and reduced sentences continue to be the rule rather than the exception.

The committee is also looking forward to hearing testimony on the prospects for an enhanced CoCom effort concerning East-West technology transfers. CoCom, the Coordinating Committee of Western Industrialized Nations, has been a rather disappointing and frustrating organization in recent years, as our allies have increasingly differed with us over the nature of the threat posed by high technology trade.

While we in this country tend to view technology transfer as a security issue, too often our counterparts in Germany, France, and Japan tend to view it as a trade issue. That difference in perspective helps to explain much of our frustration with this issue. It also

means that the Soviets have been successful in obtaining high technology by targeting the foreign subsidiaries of U.S. high technology firms, where controls are less stringent and security more lax. This is a gap that must be closed.

At the recent high-level CoCom talks in January, our allies apparently promised to tighten their export control process and to agree to an enlarged CoCom restricted list. This is welcome news. But as with other issues of allied cooperation, it remains to be seen whether actions will follow promises.

I strongly support efforts to create a strengthened and more effective CoCom. In the age of technological diffusion, controls must be multilateral to be effective. Anything less simply punishes American businessmen, while their European and Japanese competitors reap the benefits of reduced competition.

The Soviets, of course, are the ultimate beneficiaries of Western disunity on export control issues, which is all the more reason to increase our efforts to convince our allies of the necessity for a strengthened CoCom structure.

Before we turn to our witnesses, I'd like first to yield to the chairman of the full committee, Senator Garn. Then to Senator Proxmire, the ranking minority member. Then Senator Armstrong.

Senator GARN. Thank you, Mr. Chairman. First, may I congratulate you for holding this hearing and for your interest in this very vital subject. I do have a prepared opening statement and I would ask that that be placed in the record.

Senator HEINZ. Without objection, so ordered. We will place it in the record as though read.

#### OPENING STATEMENT OF SENATOR GARN

Senator GARN. Mr. Chairman, I congratulate you for holding this hearing on an issue that is absolutely vital to American security. The technological warfare now going on between East and West must be won by the West, or I fear that we may someday see it fought out by missiles, tanks, and planes.

Since World War II, Western security has been based on a qualitative advantage in armaments over the vast numerical advantage of the Soviet Pact armies. That policy has rested upon the technological and innovative superiority of the market system.

The Soviet Union and its satellites have been keenly aware of their technological lag and have expended great efforts to buy, borrow, and steal technology that until recently they themselves could not produce, or at least not produce as quickly and as well. Always significant and worrisome, these efforts have been greatly increased by the Soviet Union in the last few years. When this Western technology is added to the improved scientific abilities of the Soviets themselves, the U.S.S.R. and its allies have come to the point where the quality of Soviet armaments in key areas is equal to or better than those of NATO. In other areas, NATO's advantage is quickly deteriorating.

This produces serious consequences for Western defenses at the same time it imposes tremendous burdens on Western finances; for defense budgets must be greatly increased to make up for Soviet advances if defense is to be chosen over appeasement.



Today we are considering our efforts to stop the flow of technology to the Soviet Bloc countries. Some would suggest that such efforts are doomed to failure from the start, that nothing can be done to stop the transfer of technology to the East. The only defense, these analysts suggest, is to maintain the innovative superiority of the Western nations.

Fostering innovation and greater research and development in the United States truly is important. The economic and other policies of the administration are designed to bring about a resurgence in American creativity. Yet I find it totally unacceptable to invest so heavily in this country in R. & D. if the Soviets can steal or divert that technology to their use without having paid the price in resources to develop it. The list of Soviet weapons systems with significant design help from the United States is long and getting longer by the day.

Apparently, the Soviets do not believe that the transfer of technology from the West is automatic, for they do make great efforts and employ their best resources to obtain that technology. I firmly believe that the transfer of technology to the Soviet bloc can and must be stemmed, but I also believe that this will only happen when we are willing to invest in stopping that flow at least the same amount that the Soviets are willing to invest in bringing it about.

Relying on Western innovation alone, without trying to stop the flow of innovation to our adversaries, would be a naive policy based upon an infinite confidence in American science and military technological superiority. We must remember that such technological superiority has been achieved only since World War II and is by no means automatic.

Blind faith of that sort would be an American maginot line waiting for another Sputnik-like innovation to blow it away. The Soviets would have our innovations and theirs, and the West would stand defenseless.

One analyst of the current technological war recently made the following observation:

There is a striking parallel between the U.S. R. & D. establishment at the beginning of the twentieth century and the present Soviet establishment. . . . It is at least conceivable that the Russian technical establishment may be on the threshold of a take-off similar to that which occurred in the United States during and after World War II. The potential is certainly there, and we cannot be completely confident that the inherent characteristics of the communist system will prevent its full exploitation.

Mr. Chairman, we must have an export control policy and system that promotes American technological innovation while protecting that innovation from our enemies. This requires the absolute highest priority from this administration, from this Congress, and from our NATO allies. It is incredible to me how we have been supporting the huge Soviet arms buildup of the last 10 years. Too much of what the Soviets have needed we have sold them, duly licensed by our own Government or our allies. In some cases our allies even financed the deals at below market interest rates! The new Soviet aircraft carriers and nuclear missile submarines are currently serviced by floating dry docks made in the West, and that is just one of dozens of examples.

Of course, what the Soviets cannot buy legally they get from illegal exports. And what they cannot get someone in the West to sell to them, they have been ready and all too able to steal.

Mr. Chairman, this issue is far more important than budget deficits, but some of our current budget problems are directly attributable to the failure to conduct a successful policy of export controls.

A study released by the intelligence community a few days ago concludes, in part, "It is clear that the Western military expenditures needed to overcome or defend against the military capabilities derived by the acquisition of Western technology far outweigh the West's earnings from the legal sales to the Soviets of its equipment and technology." I only wish that we could convince our NATO allies and the Japanese of that.

Mr. Chairman, this is an important hearing, and I am interested in hearing the reports of the excellent witnesses that we have before us. I know that sometimes it is difficult to get the attention on this issue that it deserves, but I am gratified that these witnesses have come here today.

Allow me to conclude by quoting once again from the intelligence community report that I referred to: "The combination of past Soviet acquisition practices and projected Soviet military needs indicates that the United States and its allies are likely to experience serious counterintelligence and related industrial security and export control problems over the next 5 to 10 years." Today we need to examine what we can do about that.

And I would just summarize to save the time of the witnesses and the committee. I don't know of an issue that has concerned me more in my entire tenure in the Senate. In fact, it was one that I discovered when I was a new freshman Senator 8 years ago and felt that it was one of the most important issues that we should be dealing with. In the whole context of my interest in military affairs and arms control agreements and so on, it seemed to me 8 years ago that this was an area that was almost totally overlooked.

And after my 8 years of talking about it and holding hearings in the full committee, Senator Heinz, when he came to the Senate, immediately became interested in this subject and giving great service on it, still, it is a subject that is not covered very well by the press. It is not brought up. It is a strategic issue, every bit, if not more, than MX's and B-1's and SS-18's. Why is it so impossible to get through to people? I wish some of those who are so now interested in a nuclear freeze would generate some of the activity on a freeze of aiding and abetting the enemy, because that's what we have been doing over and over and over again, year after year, with ineffective controls, with business as usual, the desire for profits more important than the security of this country.

And many of the military expenditures we are making today to defend ourselves that are so in dispute are a direct result of aiding and abetting the enemy, and I don't think that that is too strong a term, with the sales of high technology items, and even nonhigh technology items that help their economy, allow them to divert funds to their military effort.

It's been an interest of mine but incredibly frustrating that we don't seem to be able to do anything about it, to stop the flow.



I simply wish that we could convince our NATO allies and the Japanese of that in their desire for trade. As Senator Heinz said, it's a trade issue, business as usual. And we are not looking at the security implications of what we have been doing.

So I'm very pleased that Senator Heinz is holding these hearings. He and I and others who are here will continue to talk about this and hopefully, some day, will get our own country, as well as the NATO allies and the Japanese to wake up to the fact of what they are doing and the difficulties they are causing in the strategic area by being so concerned with trade, profit, and jobs, that we aid and abet an enemy and then argue about increased defense expenditures in our own country to defend against what we have helped build up.

So I'm looking forward to the hearings today, Mr. Chairman. Thank you.

Senator HEINZ. Mr. Chairman, thank you very much. Senator Proxmire?

#### OPENING STATEMENT OF SENATOR PROXMIRE

Senator PROXMIRE. Thank you, Mr. Chairman. I am delighted to hear the remarks of the chairman of the full committee. I certainly enthusiastically support them.

We do seem to need to get our act together, Mr. Brady, and I hope the other witnesses are sensitive to this. Our rhetoric is very good, very strong. We recognize that the Soviet Union has engaged in aggression. It engaged in aggression in Afghanistan. It engages in violations of the Helsinki accord.

The purpose of our restraining technology transfers is not for economic warfare, but to try to restrain this kind of aggression and to be consistent in trying to, as Senator Garn has said so well, to recognize that the defense of this country is not simply a matter of having a strong military, although that is absolutely essential. That is the single most important element, but it can't stand alone.

So I'm looking forward to these hearings and I think that the chairman of the full committee and the subcommittee deserve credit for having arranged them. Thank you.

Senator HEINZ. Senator Proxmire, thank you very much. Senator Armstrong.

Senator ARMSTRONG. Mr. Chairman, I also want to join in congratulating you for holding this hearing this morning and express the hope that it will be the first of several such sessions in the very near future because the problem which we're addressing today is a very, very urgent one. In sort of a short-hand way of speaking, the U.S. attitude toward trade has been business as usual, that, in fact, the more we sell to the Soviet Union, the more peaceful they are likely to become, that the greater our contact is, the more they will become like us, and so on and so on and so on.

Well, the Russian world view is quite different, of course, and Solzhenitsyn, who has some reason to know from first-hand experience how the Russian mind works, described the process in these words. And I think that we ought to keep this in perspective as we think about what we ought to sell to the Soviet Union.

Solzhenitsyn, and I quote:

I must say that Lenin foretold the whole process. Lenin, who spent most of his life in the West and not in Russia, who knew the West much better than Russia, always wrote and said that the Western capitalists would do anything to strengthen the economy of the U.S.S.R. They will compete with each other to sell us goods cheaper and sell them quicker so that the Soviets will buy from the one rather than from the other. He said they will bring it themselves without thinking about their future and, in a difficult moment—

This is still Solzhenitsyn speaking—

And in a difficult moment at a party meeting in Moscow, he said, "Comrades, don't panic. When things go very hard for us, we will give a rope to the bourgeoisie and the bourgeoisie will hang itself." Then one of those who was present, who apparently had a very resourceful wit, asked this question. He said, "Where are we going to get enough rope to hang the whole bourgeoisie?" And Lenin responded, "They will supply us with it."

That is exactly what is happening, Mr. Chairman, and the implication—and by the way—we're not only selling them the rope, we're lending them the money to buy the rope from us, which is another issue that we ought to address in this hearing or in one of the series of hearings that I hope will stem from this.

As I see it, there are three parts to this issue. The first is the strategic question, which Senator Garn has raised, and properly so, because there is absolutely no doubt in my mind that we have seriously compromised the security interests of the United States by our permissive policy toward the export of high technology items and other items as well to the Soviet Union.

Second is the budgetary issue. The President has proposed that we spend \$1.6 trillion in the next few years in order to counter the threat of the Soviet Union's military machine. And yet, in many instances, and I'm thinking of the MX, the B-1, and other weapons, we're being asked to construct weapons to counter a threat of the Soviet Union which stems from weapons which we ourselves helped them to build.

Now I can't put a dollar figure on that. I can't tell you how much of the \$1.6 trillion that we could save if we didn't have to counter a threat that we helped to build up within the Soviet Union. But it is certainly a very, very large amount.

I'd also like to point out, Mr. Chairman, this is a human rights issue. The Soviet Union, although it is not discussed as widely as it ought to be, is guilty of human rights violations in every corner of the globe and on a stupendous scale. And in many instances, the United States has a share of the responsibility because we are financing or permitting the export licensing of industrial technology that directly makes us accomplices in their human rights violations.

Mr. Chairman, I also have a prepared statement which I would like put into the record.

But I want to kick off just so that we have it in perspective as we begin the main landmarks in this record. First of all, the sale of things like precision grinding equipment, which, as many of the

members of the committee and the witnesses no doubt know, are believed, at least by some people, to be the significant breakthrough which enabled the Soviet Union to deploy these missiles which I have put up here. The point being, as I'm sure the chairman and others know, that in order to deploy missiles with the tremendous accuracy which this series, this generation, of missiles which I have put up over here in, in fact, an exhibit, requires very close tolerances in the inertial guidance system.

Well, in 1972, we authorized the sale of precision ball bearing grinders manufactured by a Vermont company, which have the ability to grind to a tolerance of twenty-five one-millionth of an inch. Now I do not know, and perhaps one of the witnesses can tell us, whether or not there is any direct proof that there is a cause-and-effect relationship there. I don't know that that is the case. But certainly, sending that kind of—

Senator GARN. Would the Senator yield for just a moment?

Senator ARMSTRONG. I'd be happy to.

Senator GARN. On that point, it's a Centerline B machine that you're talking about. The Soviets tried to get it for 11 years. That's how badly they wanted it. We turned them down for 11 years and they kept saying, well, if you don't sell it, we'll get it from somebody else. I don't think there's any doubt whether you can prove it exactly or not that those went into those SS-18 guidance systems. They waited 11 years to get the grinding machines that you're talking about.

Senator ARMSTRONG. Well, that's absolutely correct. The request was put before the United States when John Kennedy was President. He turned it down. It was subsequently authorized 11 years later, as Senator Garn has said.

Then there is the question of the complete plants which have been financed and built in large measure with U.S. technology and money. And I would cite as an example the Kama River and Zil truck plants. And they're significant because when the Soviet troops went to war in Afghanistan, they rode in vehicles which were manufactured in these plants, which, in my prepared statement, Mr. Chairman, I detail the relationship of U.S. technology and financing, how these plants came into being.

The significant thing is we have the responsibility, aside from our security interests, we have the responsibility of having actually provided the wherewithal which permitted the Soviet Union to undertake that activity in Afghanistan. There are some people who will say, well, they're going to get it from someplace, the point that Senator Garn just made. And I would suggest that, in many cases, they're not going to get it from someplace else because, despite the tremendous advances in technology and science by the Japanese, the Germans, the French, and others, there are still a lot of things that only the United States knows how to do, and if we keep those a secret from the Soviet Union, they're just not going to know. And I'm thinking of computer software as one example, but there are many.

In addition, even if it were not true, even if such technology were readily available from other sources, I think that there is a moral question of whether or not the United States wants to be in the position of supplying that kind of information and technology to



people who will abuse it in the way that the Soviet Union so clearly has abused the technology which we have previously supplied.

I think also, Mr. Chairman, we need to seriously consider projects which have not only been built, but which are now pending. I'm thinking of the Yamal pipeline as a good example of that. There is a strategic question: Do we really want to participate or condone the construction of a pipeline which will put our allies in Western Europe, particularly West Germany, in a position of dependence for 30 percent of their natural gas on the Soviet Union? I think that that's a strategic question.

There's also a human rights question, Mr. Chairman, because we have information from a couple of sources, and perhaps our witnesses will confirm it, that it is the intention of the Soviet Union to import so-called guest workers from various countries, especially from Vietnam, for the construction of this pipeline. We're told that up to 500,000 such workers may come in under what amounts to involuntary servitude in a climate quite different from their home country and with various provisions and amenities which scarcely sound like it's a voluntary transaction.

I'm reluctant to use the term "slave labor" because that sounds so dramatic, and yet, I think that, at least from the reports that we have received from Dr. Comstock and others, that, in fact, that's not an unreasonable description.

Mr. Chairman, in the interest of time, I would like to submit my entire testimony.

Senator HEINZ. Without objection, so ordered. We will insert the entire statement as though read.

#### OPENING STATEMENT OF SENATOR ARMSTRONG

##### TECHNOLOGY TRANSFER: SELLING THE SOVIETS THE ROPE

Senator ARMSTRONG. America's budgetary woes wouldn't be nearly so severe if our economy weren't groaning under the strain of financing two military budgets—our own, and a significant portion of the Soviet Union's.

President Reagan has proposed spending the incredible sum of \$1.6 trillion over the next 5 years in order to counter the awesome Soviet military buildup of the last decade and a half.

Defense expenditures of this magnitude will impose a heavy burden on a U.S. economy already reeling from the consequences of too much Government spending, taxing, and regulation. But such defense expenditures will be required if Americans are to be kept safe, free, and out of war.

The great irony for Americans who will be asked to tighten their belts in order to pay for our defense needs is that much of the additional money that must be spent on defense is required to offset Soviet weapons that probably could not have been built without our assistance.

It's hard to put a price tag on the additional burden heaped on our taxpayers by our reckless trade policies with the Soviet Union. But if it weren't for these policies, we likely wouldn't need the MX missile or the B-1 bomber to counter Soviet weapons we helped the Russians build.



Even more difficult to calculate, but far more important, is the human suffering that has been caused by Communist aggression; aggression made possible, in large part, by unwitting American and Western European aid.

In the last 10 years alone, the United States and other Western nations have sold to the Soviet Union and its satellites more than 50 billion dollars' worth of sophisticated technical equipment the Communists could not produce themselves. This equipment has been used to produce nuclear missiles, tanks and armored cars, military command and control systems, spy satellites, and air defense radars. In addition, the Soviets have been able to purchase entire factories, designed and built by Western engineers and financed in large by American and Western European banks. Much of the production of these factories is devoted to the manufacture of military transport, ammunition, and other logistical items for the Soviet war machine.

It is difficult to overstate the extent to which the West has contributed to the military threat that now endangers our very existence. Consider that:

In 1972, President Nixon authorized the sale to the Soviet Union of 164 precision ball bearing grinders manufactured by the Bryant Chucking Grinder Corp. of Vermont. These grinders can manufacture tiny ball bearings to remarkable precise specifications—a twenty-five one-millionth of an inch—the precision necessary to build the inertial navigation systems for multiple warheads on intercontinental ballistic missiles [ICBM's]. The Soviets had tried to buy the Bryant grinders in 1961, but President Kennedy had turned them down on national security grounds.

Shortly after the sale of the Bryant grinders, the Soviets began deploying a new generation of ICBM's which were 10 times more accurate than their predecessors, and which, for the first time, were capable of carrying multiple warheads. Soviet deployment of these new monster missiles took our intelligence community by surprise. We'd assumed it would be years before the Soviets would have the technology to MIRV their warheads and to obtain the accuracies we estimate for the SS-17, SS-18, SS-19, and SS-16/20 ICBM's. Nobody in the West knows for sure how much the Bryant grinders may have assisted the Soviet ICBM program, but intelligence officers have a built-in suspicion of coincidences.

The U.S. contribution to the new generation of Soviet ICBM's may have begun earlier, in the late 1960's, when Soviet military research scientists were permitted to study at the Massachusetts Institute of Technology. Their U.S. hosts were most accommodating. Not only were the Soviet scientists brought up to speed on the latest U.S. technological developments, they were permitted to tour plants where the technology was being put to work for the Department of Defense.

Our contribution to the Soviet missile program didn't end there. The Soviets were also able to obtain microprocessors important in missile guidance systems and computers which can be used to design nuclear warheads.

One thing certain is that we're paying a heavy price for our overly generous dealings with the Russians. The new Soviet missiles are capable of destroying all our land-based missiles in a sur-

prise attack. A nuclear Pearl Harbor, literally unthinkable just a few years ago, is no longer so unthinkable to the generals in the Kremlin. It is because of the new vulnerability of our ICBM force that the Pentagon is now seeking to deploy the MX missile, which ultimately could cost us \$100 billion or more.

Also in 1972, U.S. participation was authorized in the construction of the Kama River and Zil truck plants. The Kama River plant, near the city of Neberezhnyye, is the largest heavy truck plant in the world, able to produce 250,000 trucks and half again as many diesel engines annually. The plant was built almost entirely with 500 million dollars' worth of Western supplied equipment, technology, and know-how, and financed in part by loans from American banks. Our intelligence agencies believe a substantial portion of the Kama River and Zil plants is devoted to the military, producing not only military trucks, but engines for Soviet armored personnel carriers, missile launchers, and components of the latest Soviet main battle tanks. Most of the Soviet soldiers who rode into Afghanistan rode in vehicles produced in these plants and two others—Gaz and Minsk—that also received large infusions of Western technology and were financed in part by Western banks.

The Western contribution to the mobility of the Red Army is threatening not only the liberty of the Afghans, but our own industrial lifeline as well. The Red Army always has been very large, but in the past it couldn't go very far from the Soviet Union, or stay there for very long, because its logistics base was too small. Now, thanks in large part to us, the Soviets have the capability to project military force rapidly into the Persian Gulf, threatening the vital oil resources there.

These Western contributions to the Soviet war machine are the result of our belief in the civilizing and pacifying effects of trade and cultural ties with the Soviet Union and an alarming failure to discriminate among various types of trade.

The Soviets have a world view that is radically different than our own. Communist Party boss Leonid Brezhnev told a meeting of Warsaw Pact leaders in Prague that détente was, from a Soviet perspective, a means of lulling the West into a false sense of security while the Soviets acquired from the West the technology that would make possible Soviet military domination of the world by the mid-1980's.

This always has been the Soviet view of East-West trade. Hear the testimony of Aleksandr Solzhenitsyn, who knows from bitter experience how the Communist mind works:

"I must say that Lenin foretold the whole process. Lenin, who spent most of his life in the West and not in Russia, who knew the West much better than Russia, always wrote and said that the Western capitalists would do anything to strengthen the economy of the U.S.S.R. They will compete with each other to sell us goods cheaper and sell them quicker, so that the Soviets will buy from the one rather than from the other. He said: They will bring it themselves without thinking about their future. And, in a difficult moment, at a Party meeting in Moscow, he said: 'Comrades, don't panic, when things go very hard for us, we will give a rope to the bourgeoisie, and the bourgeoisie will hang itself.' The Karl Radek . . . who was a very resourceful wit, said: 'Vladimir Ilyich, but

where are we going to get enough rope to hang the whole bourgeoisie?" Lenin effortlessly replied: "They'll supply us with it."

Westerners, I'm sorry to say, lived down to Lenin's expectations. In 1918, even before the Bolsheviks had consolidated power in Russia, businessmen—including representatives of several prominent Wall Street banking firms—were clambering over themselves in their eagerness to gain concessions from the new Soviet state.

Lenin's policy of doing business with Western capitalists caused him problems with less perceptive Bolsheviks. At a party meeting in 1920, Lenin—in terms that would be echoed 50 years later by Brezhnev in Prague—felt compelled to reassure his comrades that: "Concessions do not mean peace with capitalism, but war on a new plane."

This "war on a new plane" was, from the Soviet perspective, enormously successful. Lenin granted some 350 concessions to Western firms, including General Electric, Westinghouse, International Harvester, RCA, Alcoa, Du Pont, Ford, and Standard Oil of New York—Mobil. This massive infusion of Western capital, technology, and know-how worked a miracle on Russia ravaged by 7 years of war and civil war. By 1930, when a semblance of order had been restored to the Soviet economy, all but a handful of these firms had their property expropriated without compensation.

Undaunted by what should have been an eye-opening experience, Western businessmen again flocked to the Soviet Union when invited by Stalin to participate in his first 5-year plan. Again, the Western contribution to the Soviet industrial base was massive. In 1944 Stalin told Eric Johnston, then the president of the U.S. Chamber of Commerce, that two-thirds of the large industrial projects in the Soviet Union had been built with American assistance.

It's difficult to overstate how much all this contributed to Soviet military and industrial might. Antony Sutton, author of the authoritative three-volume study "Western Technology and Soviet Economic Development," declares flatly: "there is no such thing as Soviet technology."

Sutton exaggerates, but not by much. Even a prominent Soviet scientist, in a cocktail party conversation with his American counterpart, jocularly acknowledged that the most prolific Soviet inventor is "Comrade Reguspatoff." Reguspatoff is shorthand for Registered U.S. Patent Office.

Clearly, a comprehensive reexamination of our trade policies with the Soviet Union and her satellites is long overdue.

Our first and foremost concern should be to keep out of Soviet hands, goods, technology, and know-how that helps the Soviets build sophisticated weapons they couldn't otherwise build. We are at a critical point. The Soviets have many more of most weapons than we do. But we have been able to maintain rough military parity because, in most instances, our systems are much better than theirs. Now we are in grave danger not simply of losing, but of giving away, this vital technological edge. Our problem is compounded by the fact that advances in the most vital areas—computers, microprocessors, high energy lasers, et cetera—are made first in the commercial sector, and only later applied to military uses. But the Soviets put military purposes first. So we simply must



have strict and comprehensive controls on these so-called dual use technologies.

We also must take a closer and harder look at the sale to the Soviet Union of industrial goods and processes which are not in themselves threatening, but which permit the Soviets to devote more of their own resources to military purposes. A case in point are the Caterpillar tractor-pipelayers they want to use in building a natural gas pipeline from Siberia to Western Europe. The Soviets want to buy the Caterpillar pipelayers not because they don't know how to build tractors—that's no big secret—or because they don't have tractor plants in which to build them—we helped build a number of tractor plants for them in the 1930's. No, the reason why the Soviets want to buy American pipelayers instead of building their own is because their tractor plants are all pretty much fullup—building tanks. They don't want to cut back on their tank production. We, on the other hand, should want that very much. If the Soviets were building more tractors and fewer tanks, we probably wouldn't be forced to spend \$12 billion to modernize our task force.

There are some who say we should not try to curb the sale of American products—including high technology products which clearly are being put to military use—to the Soviet Union because "if we don't sell it, someone else will."

This argument is, of course, morally flawed. Just because there are dope peddlers who sell dope to small children doesn't mean we have to install vending machines in the school cafeteria to dispense marijuana, cocaine, and amphetamines.

But this argument is also practically flawed. In a number of highly critical areas, computers and microprocessors in particular, the U.S. has technology which is unavailable anywhere else. And in many areas where hardware as capable as our own can be obtained elsewhere, the software that makes the hardware go, can't be.

Finally, what makes a great nation different from simply a large nation is its ability to lead. All the nations with technology comparable to ours in the West trade much more with us than they do with the Soviet Union, and rely on us rather than the Soviet Union for their protection. Through a combination of the carrots and sticks at our disposal, we ought to be able to persuade these nations—most of which are allied to us—to tighten up their own technology export policies.

There are others who say we should not impose restrictions on trade with the Soviets for fear of lost opportunities for American business. Certainly, the prospect of winning a piece of the Russian market has bedazzled businessmen for decades. The total volume of our trade with the Soviet Union is only one-third of our volume with Taiwan, and only 10 percent of United States-Soviet trade was in the high technology goods which help build the Soviet war machine.

Another area which requires a much closer look are our cultural, scientific, and educational exchange programs with East bloc countries. Virtually every Soviet exchange student in the United States is here to learn more of the hard sciences which the Soviet Union trails the West. Western students in the Soviet Union, on the other



hand, are permitted to study only such subjects as "A Comparative Semantic Analysis of Verbal Aspect in Russian and Serbo-Croatian" and similar humanistic studies which give no clue as to Soviet technological development, or the application of that technology to Soviet military purposes. We've learned from bitter experience how damaging these seemingly innocent exchange programs can be. As noted above, the new generation of Soviet ICBM's probably had their genesis in an exchange program at MIT. There are more recent examples. In the mid-1970's, a Soviet scientist was given permission to study under a University of Michigan professor who happened to be a leading authority on fuel-air explosives. That scientist is back in the Soviet Union now, heading up the Soviet R. & D. effort on fuel-air explosives.

Finally—and in the long run most important—we need to reexamine the fundamental premises on which our détente relationship with the Soviet Union is based. We need to seriously consider the totality of our military, scientific, political, commercial, cultural, and other relationships with the U.S.S.R. and emphasize those which promote peace and/or U.S. interest and terminate those which increase tensions or Soviet war capability.

The fundamental premise of détente was that the more we traded with the Soviet Union, the more dependent their economy would become on ours. But, as the debate over the Polish loans makes clear, precisely the opposite has happened. Instead of making the Soviets more dependent on the West, our trade policies have given them an entirely new weapon with which to threaten our security.

The awful truth is summarized by an old Polish proverb which goes as follows: "If you owe 1,000 zlotys, the bank owns you. But if you owe 1 million zlotys, you own the bank." Most trade with the Communist bloc is financed by loans from Western banks, often at absurdly low interest rates guaranteed by Western governments. By the end of 1980, Soviet bloc nations owed nearly \$70 billion to the West, about four times what we loaned under the Marshall plan to revive Western Europe at the end of World War II. That debt is expected to rise to \$120-\$140 billion by 1985 if the present lending pattern continues unabated. If we permit the debt to mount that high, the Soviets will be able to undermine the entire financial structure of the West simply by doing something they've already done before—declare they won't repay the loans.

The time for another Soviet repudiation of debt may be drawing near. In 1976 the Soviets created an ingenious financial gambit to obtain the Western technology they wanted via loans taken out by their satellites. The Soviets got the goods, and the satellites got the bill. This was a bad deal for the satellites, but with Soviet troops occupying their countries, they didn't have any choice but to go along. Now the game is just about over. Poland and Rumania already are unable to repay their loans; Hungary and East Germany aren't far behind. Their debts already are much larger than any realistic assessment of their ability to repay them. And although the Soviet Union has been careful to heap most of the burden onto the shoulders of its subject nations, Soviet hard currency debt also has expanded sharply, and is expected to rise further in the next few years.

The case of Poland is instructive. Poland is flat broke. Without additional loans, the current martial law regime will be unable to make interest payments on the money it already owes, much less actually repay those loans. Aside from naked military force, all that is keeping the present puppet government in power are the excessively lenient credit terms the West has granted, and is continuing to grant, to Poland.

Right now, the Soviet Union is enjoying the best of both worlds in Poland. The Soviets enjoy the benefits of conquest—they installed the puppet government in Poland—while we in the West pick up the costs of occupation.

But all that could be reversed overnight if Western governments would require their bankers to recognize the obvious and write off the Polish loans as bad debts. Poland wouldn't be able to borrow another dime in the West. The Soviets would be left with nothing but bad choices. Either they would have to assume the burden of supporting the Polish economy themselves, or let the Polish economy collapse. If the Soviets decide to bail out the Polish economy—and after it the Rumanian, Hungarian, and East German economies—each ruble they'd spend would be one ruble less they could devote to their war machine. On the other hand, if the Soviets let the Polish economy collapse, in all likelihood the martial law regime would collapse with it. The Soviets then would have to choose between permitting the very real possibility of an anti-Communist government being formed in Poland, or intervening with military force. Military intervention would have serious economic and political consequences for Russia. The Red Army is not designed for long-term deployment beyond its borders, and the maintenance of a force the size required to occupy Poland would impose a huge drain on the Soviet economy. Furthermore, Soviet soldiers putting out fires in their own backyard would be in no position to threaten Western interests in the Persian Gulf, Africa, or elsewhere in the world.

But Western governments, including, I'm sorry to say, our own, have so far refused to take this obvious step. The reason given is the potential losses to Western banks of writing off the Polish loans.

These fears are exaggerated. At present, Poland owes about \$26 billion to the West, of which a little more than \$3 billion is owed to the United States. Of the United States, about \$1.2 billion is owed to private banks, and the remainder to the Government itself. The Polish debt in private hands is spread fairly evenly among our 10 largest banks. Default would cost these banks little more than embarrassment over having made bad loans, and a reduction in their annual profits.

European bankers, especially West German ones, would suffer more. Poland owes about \$6 billion to West Germany, of which approximately \$3 billion is owed to the West German Government. The remainder of the debt is spread among nearly 100 private banks. Some of these banks would suffer substantial losses if forced to write down the Polish loans entirely, but all would survive. At least that's the assessment of our Ambassador to West Germany, Arthur Burns, who, as a former Chairman of the Federal Reserve, is in a position to know.

If the consequences to the West of a Polish default would be more severe, as some bankers allege, that is all the more reason for forcing default now. If Poland is forced into default now, the costs to the West pretty much can be restricted to a diminution of earnings. But if we permit East bloc debt to rise to the vicinity of \$120-\$140 billion, then a Communist repudiation of debt could cost millions of Americans and Europeans their life savings, and ultimately their freedom.

Permitting Poland to go into default now also could put the kibosh on the Yamal pipeline, the No. 1 Soviet goal in their current 5-year plan. The Yamal pipeline is a \$10-\$14 billion project to build a 3,600-mile natural gas pipeline from northwestern Siberia to West Germany. Much of the technology and most of the capital required to build the pipeline would come from the West.

The security of the West is seriously threatened by completion of the Yamal pipeline. It is expected to supply up to 30 percent of West Germany's natural gas needs when completed in the 1990's. In a future crisis, the Soviets could say: "Do what we want, or we'll turn off the gas."

That's only the worst aspect of the Yamal pipeline. There are two others that are nearly as bad. The infusions of Western capital to build the pipeline, and, later, proceeds from the sale of Siberian gas will earn the Soviets \$6-\$8 billion a year in badly needed foreign exchange with which to buy Western technology to pump into their war machine. In addition, the Soviets plan five spurs within the Soviet Union from the main pipeline. Each spur would go to the five major military-industrial complexes where most of the 135 Soviet plants devoted primarily to building arms are located. The Soviets are running out of oil and coal. They need the natural gas and they need our help to drill and ship in order to keep their war industries running at full capacity in the latter part of this decade.

Finally, there is an aspect to the Yamal pipeline that should turn the stomachs of humanitarians everywhere. The Soviets are experiencing a labor shortage which will become severe by the 1990's. There aren't enough hands to do all the manual labor that needs to be done on the pipeline, and there aren't enough amenities in Siberia to entice Soviet workers to go there voluntarily. So the Soviet Government is likely to use what is, for all practical purposes, slave labor to help construct the pipeline. Mikhail Makarenko, a Soviet dissident who was an inmate of Soviet concentration camps as recently as 1978, says he is certain the Soviets will use concentration camp labor for much of the pipeline work. Furthermore, there are indications the Soviets will import up to 500,000 Vietnamese to do manual labor. The Vietnamese are being taken primarily from "politically unreliable" elements of what used to be South Vietnam and being sent to the Soviet Union for indefinite periods of time. The Vietnamese have little say in the matter. This is the price the Soviets are exacting for keeping the Communist government in Vietnam afloat economically. The use of what is, for all practical purposes, slave labor in the construction of the Yamal pipeline should be reason enough to prevent Western participation in it.

I've painted a grim picture of where our reckless trade policies with the Soviet Union have been leading. Clearly, things have



reached a crisis. But in times like these it is important to remember that the Chinese words for "crisis" and "opportunity" are one and the same. If we recognize the consequences of our folly and take proper corrective action, we can thwart Brezhnev's plan for world dominion.

Our strength and Russian weakness is economic, not military. The Soviets are depending on us to continue to supply them with "the rope" until they have enough to hang us. But there is still time to yank the rope away.

But before we call on the witnesses, I would like to just point out, these are some vehicles that were actually built. I won't go through the citation of them because they're contained in my prepared statement. But these are some vehicles that were built in plants which were either constructed by, given technology from, or financed by the United States, or all three.

And in the case of one plant which we began helping them to construct in 1972, and this is the Kama River plant, which is still under construction, although it's also operational, we have superimposed the size of this gigantic plant, the largest in the world of its kind, on Washington, D.C. Now this is not all under roof. About 25 percent of that is under roof. But to give you some idea of the size of that, we've superimposed it on Washington, D.C. Here's the Pentagon, here's the Ellipse, here's the Capitol [indicating]. We're talking about a huge facility, a gigantic facility.

The United States has, in effect, supplied the wherewithal to make that possible.

So I think we've got a great question of self-interest and also—  
[Laughter.]

Senator ARMSTRONG. You're not wrong about that. And also, I think we have not only our own interest to consider, but that of our allies and that of captive peoples who are affected by this.

So, again, my thanks for bringing—

Senator GARN. I think that Senator Heinz' comment should be in the record: "I wonder how they got the environmental impact statement to do a thing that large." [Laughter.]

Senator HEINZ. Thank you, Mr. Chairman. Senator Armstrong, that is an extremely impressive presentation. And I thank you for the great specificity regarding the ball bearings and regarding the Kama River plant. We thank you for your interest. You and I have discussed the need for a continuing follow-on in this area and I am hopeful that we can do that. [Pause.]

I am advised by counsel that Secretary Ikle has to be down at the Pentagon at 11:45. Let me ask Larry Brady if he would be willing to shift with, exchange positions with the Secretary?

Mr. BRADY. That's fine. Certainly, sir.

Senator HEINZ. Let me ask, then, the Honorable Fred Ikle to be our first witness. Please proceed.

**STATEMENT OF FRED C. IKLE, UNDER SECRETARY FOR POLICY,  
DEPARTMENT OF DEFENSE, ACCOMPANIED BY DR. STEPHEN  
BRYEN**

Mr. IKLE. Mr. Chairman, thank you for inviting me to testify. I welcome the opportunity to present the concerns of the Defense De-



partment regarding East-West trade in strategic technologies. I have with me Dr. Stephen Bryen of my staff who has the responsibility for strategic technology transfer policy.

An important factor for our national defense, as well as for the security of our allies and friends, is the leadership in technological innovation that has given us added strength for many years. We have long been relying on a certain technological advantage which helps us keep our defense effort smaller than what it would otherwise have to be.

However, because of past neglect, the United States and our allies have allowed this qualitative edge to erode. We have unnecessarily permitted Western technology to contribute to the immense Soviet military buildup during the past decade and thus made our own defense requirement even more costly. This has occurred in several important ways.

Some of the Western technology acquired by Soviet military and military-related industries comes from illegal sources. For example, over a period of 3 to 4 years, the Soviet Union acquired an entire integrated circuit manufacturing line, piece by piece, through a California corporation.

Much militarily useful technology has also been acquired legally. Because of a lack of control or inadequate controls during the 1970's, critical materials and technology in the manufacture and application of advanced microcircuits, such as electronic grade polycrystalline silicon and the know-how and equipment to produce multilayered integrated circuit boards were decontrolled and made freely available to the Soviet Union. These items play an important role in military equipment. The controls were lifted to accommodate commercial pressures and ill-conceived political objectives.

We discovered that most of this transferred technology has been "Sovietized" over several years, and integrated into military plans and weapons systems after the Soviets have mastered its applications. Microelectronic devices which are carbon copies of Western devices have been found in Soviet military equipment considerably enhancing its performance. Such improvements in performance can be critical. As you know, the Soviet Union tends to produce larger quantities of military equipment than the United States; hence a technological edge is essential for much of our equipment.

For the West to keep its critical technology edge requires large investments in military R. & D. and applications engineering. These investments are negated if we allow continued Soviet access to Western technology and militarily useful scientific information. Possible short-term commercial benefits from the sale of technology must be weighed against the long-term increase in defense costs that such trade may lead to.

How do we stem the flow of Western technology to the Soviet Union?

There exists only one international mechanism for restricting technology transfers to the Soviet Union and other Warsaw Pact nations. This is the Paris-based coordinating committee, or CoCom. CoCom is an informal organization established in the early 1950's and comprises the NATO countries, minus Iceland, plus Japan. It has no formal link to NATO, however. The CoCom system works on the basis of consensus—and it is sometimes surprising that it

works at all. The consensus requirement is both its strength and its weakness. Because CoCom is a voluntary organization and requires unanimity to act, it can continue to operate with reasonable effectiveness only through a system of compromise, exceptions, and precedent. The members seek to balance the strategic concerns over CoCom restricted technology transfers against their commercial and political interests. Unfortunately, the need to seek compromises has allowed controls to be eroded, especially in recent years. The erosion takes the form of numerous requests for exceptions, which can have the effect of virtually allowing the export of all but the most-advanced technologies and those advanced technologies the Soviet Union has sought to acquire through illegal channels—unfortunately with considerable success.

This administration has sought from the outset to strengthen the strategic purpose and will of CoCom. Key to this effort has been the CoCom high-level meeting convened last January in Paris. The purpose of this political meeting was threefold: To reaffirm the strategic objective of the CoCom embargo; to gain agreement to strengthen controls over certain key military-related technologies, such as robotics, computerized message switching, metallurgy, and others; and to harmonize CoCom procedures and increase cooperation among members in enforcing controls.

We also sought to establish a committee of military technology experts to advise CoCom. Except for the United States and one or two other countries, defense ministries play little or no role in the review of strategic trade exports. I am pleased to report that the general strengthening program sought by the U.S. delegation was well received by our allies, and we are working together now to establish a solid framework to revitalize CoCom as an effective medium for the control and enforcement of the strategic trade embargo.

#### WESTERN GOVERNMENT CREDITS FOR THE U.S.S.R.

We view the termination of Western official support for lending to the U.S.S.R. as an important step in controlling the flow of high technology relevant to the Soviet military buildup. This is also a moral issue. We do not see why Western taxpayers should subsidize the flow of financial resources from West to East when these resources are turned to our disadvantage insofar as they are used to finance Soviet military spending and adventurism throughout the world.

The significance of officially supported credits goes far beyond the relatively small amounts of lending actually extended by Western governments. The Soviet bloc is in parlous financial shape. There are public reports that countries such as Poland, Rumania, and even East Germany may never be able to repay their debts to the West. Western banks have virtually ended new lending to most Soviet satellites. Some say that the Soviet Union itself is a Poland in the making. Our analysis is that without the continuation of officially supported Western credits to the Soviet Union, Western banks would abstain from further lending to Moscow. Soviet agriculture is in shambles. Soviet oil exports are falling. The Soviets are selling off their gold in large quantities in order to shore up

their shaky economic system. Under these circumstances, we see any encouragement of additional Western lending to Moscow, especially by democratic governments, as financially imprudent and politically indefensible.

Some have charged that we are trying to destroy East-West trade, indeed that we are advocating economic warfare. Economic warfare is not our purpose. Our purpose is to put East-West trade on a more businesslike foundation based on the changing political and strategic environment. It is time to end the concessions granted to the Soviet Union in the heyday of détente. It is certainly time to put a stop to the unseemly competition between Western states for Soviet trade, including cut-rate credit offers. If the Soviets are a good credit risk, let them pay market rates. If the Soviets are a poor credit risk as we maintain, let us stop lending them money which we will never see again. Let them pay cash.

Our most important objective must be to stop the net transfer of resources from West to East and especially from Western taxpayers to the Soviet Union. It is not only unwise, it is unfair that Western taxpayers should have to bear the cost of underwriting the Soviet war machine, through officially supported credits to Moscow, as well as having to pay the costs of responding to the Soviet threat with an expansive defensive buildup of their own.

#### WEST SIBERIAN PIPELINE

The Department of Defense has also repeatedly voiced its concerns about the strategic implications of the West Siberia to Western Europe natural gas pipeline. We view the project as threatening to the unity of the Atlantic Alliance, while it contributes at the same time to the economic strength of the Soviet Union. The estimated annual hard currency earnings from the pipeline, when it is in full operation will be around \$8 billion. The pipeline will provide the largest single portion of Soviet hard currency earnings. Even now energy exports provide over half of Soviet hard currency earnings, and we expect no change in this relationship for the rest of the decade. These exports harm the security of the Atlantic Alliance in several ways.

First, they help finance the acquisition of critically needed Western technologies by the Soviets. The Soviet system is much less efficient in the civilian sector, than in the military. For the last decade the Soviets have sought to remedy this defect in their economic system by buying both goods and know-how in the West. For this they need a steady stream of hard currency from the West. In the past they were able to supplement their earnings with borrowing from Western governments and financial institutions. Now, as both Eastern European and Soviet debt has grown to unmanageable proportions, this is less possible. Energy exports to Western Europe become all the more critical to Moscow and allow it to avoid the choice between guns and butter.

Second, these energy exports help finance the Soviet military buildup more directly. The Soviets have maintained a steady increase in their military spending over the last two decades, despite a slowdown in the growth of their overall economy. They have used hard currency to acquire sophisticated Western technology with



military applications that would be too expensive and time consuming for them to develop at home. Military spending has crowded out civilian investment, as a greater and greater proportion of their GNP has gone to the military. We believe they denying them easy access to Western hard currency would help curb their ability to manipulate the Western high technology marketplace to their strategic benefit and our detriment.

Third, Western Europe has been persuaded through this project to underwrite the cost of Soviet energy development, while ignoring Western energy security needs. Some \$10 to \$15 billion in Western investment will be made in developing the Soviet natural gas gathering and transportation system in this project. We might note that this project could be just the first of many projects, as a second pipeline project is already waiting in the wings. Yet we are all aware that many potentially exciting energy projects in the West remain unfunded. The North Sea has seen investment cutbacks; the Alaskan natural gas pipeline is begging for funds; U.S. coal transportation projects, such as port dredging, goes underfunded; this list could be expanded. We see little sense in massive Western investment in a project of dubious reliability, when safe, secure, economic alternatives are not exhausted first.

Fourth, we see the west Siberian project as a dinosaur. The project was conceived in the days when it was assumed that Western energy resources were depleted, oil and gas were in short supply, and prices were inevitably rising. All of these assumptions have proven false. What maintains this project now is its own political and bureaucratic momentum. We believe there are better solutions that can serve to strengthen the independence and well-being of the Alliance. And, while much water is over the dam, there remains a chance to reduce or replace the pipeline project. Vision and creativity as well as dialog are needed. Certainly, we want to make a positive contribution to the effort and we have constructive proposals to present.

In concluding, Mr. Chairman, let me draw your attention to the larger context. A deeper reason accounts for the fact that the flow of technology is almost exclusively in one direction—from West to East. This one-way flow is not caused by some inherent inability of the Russian people; the Russians and other peoples of the Soviet Union have given ample proof of their intellectual capabilities. It is not caused by a lack of human or natural resources; the Soviet population is larger than the U.S. population, and the vast extent of their natural resources is now known. The reason, Mr. Chairman, is the Communist system that stifles creativity and innovation.

In the military competition, the Soviet Government has many advantages over the West. It can divert a much larger share of the national income to military purposes. It can maintain more rigorous discipline over its citizens. But it cannot match us in creativity and innovation. We must not nullify this advantage by transferring our technological accomplishments to our adversaries.

Senator HEINZ. Thank you, Secretary Ikle, for a very thoughtful and wide-ranging statement. You give us some examples of technology that went to the Soviet Union because of the lack of controls or inadequate controls. I'm sure that that is just a partial list. Could you furnish, to the best of your ability, the committee with a com-



prehensive list and your assessment of the reason that that particular technology involved got away from us?

Dr. IKLE. Indeed, we will do so. We would also like to draw to your attention a new publication issued by the Central Intelligence Agency on Soviet acquisition of Western technology that is unclassified and a very good compendium of precisely this problem.

Senator HEINZ. I think the members of the subcommittee have received copies.

Dr. IKLE. I would assume that you have those. But I think it, to a large measure, addresses the question that you just raised.

Senator HEINZ. It will be a part of the record.

[Copy of the publication referred to follows:]

April 1982

## Soviet Acquisition of Western Technology

### Introduction

The United States and its Allies traditionally have relied on the technological superiority of their weapons to preserve a credible counterforce to the quantitative superiority of the Warsaw Pact. But that technical superiority is eroding as the Soviet Union and its Allies introduce more and more sophisticated weaponry—weapons that all too often are manufactured with the direct help of Western technology.<sup>1</sup> Stopping the Soviets' extensive acquisition of military-related Western technology—in ways that are both effective and appropriate in our open society—is one of the most complex and urgent issues facing the Free World today.

This report describes the Soviet program to acquire US and Western technology, the acquisition mechanisms used, the spectrum of Western acquisitions that have contributed to Soviet military might, the projected Soviet priority needs for Western technology, and the problems of effectively stemming the transfer of Western technology that could someday find application in weapons used to threaten the West.

### Soviet Acquisition of Western Technology: A National-Level Program

Since at least the 1930s, the Soviet Union has devoted vast amounts of its financial and manpower resources to the acquisition of Western technology that would enhance its military power and improve the efficiency of its military manufacturing technology. Today this Soviet effort is massive, well planned, and well managed—a national-level program approved at the highest party and governmental levels.

<sup>1</sup> While there are numerous interpretations of "technology" for weapons, it is defined in this report as the application of scientific knowledge, technical information, know-how, critical materials, keystone manufacturing and test equipment, and end products which are essential to the research and development as well as the series manufacture of modern high-quality weapons and military equipment. Western technology is defined as that technology developed by the Free World.

This program accords top priority to the military and military-related industry, and major attention is also given to the civilian sectors of Soviet industry that support military production.

The Soviets and their Warsaw Pact allies have obtained vast amounts of militarily significant Western technology and equipment through legal and illegal means. They have succeeded in acquiring the most advanced Western technology by using, in part, their scientific and technological agreements with the West to facilitate access to the new technologies that are emerging from the Free World's applied scientific research efforts; by spending their scarce hard currency to illegally purchase controlled equipment, as well as to legally purchase uncontrolled advanced Western technologies having military-industrial applications; and by tasking their intelligence services to acquire illegally those US and Western technologies that are classified and export controlled.

The Soviets have been very successful in acquiring Western technology by blending acquisitions legally and illegally acquired by different government organizations. The Soviet intelligence services—the Soviet Committee for State Security (KGB) and the Chief Intelligence Directorate of the Soviet General Staff (GRU)—have the primary responsibility for collecting Western classified, export-controlled, and proprietary technology, using both clandestine and overt collection methods. They in turn make extensive use of many of the East European Intelligence Services (see inset, p. 2); for their efforts in acquiring Western technology, these countries are paid in part with Soviet military equipment and weapons.

Clandestine acquisition of the West's most advanced military-related equipment and know-how by the KGB and GRU is a major and growing problem.

### **East European Intelligence Services Acquire Technologies for the Soviet Union**

*In the late 1970s a former East European intelligence officer revealed organizational and targeting details related to Soviet-directed acquisitions of Western technology by East European intelligence services, particularly military-industrial manufacturing-related technologies that were given the highest priority for collection by at least one East European intelligence service. Many technologies were acquired through dummy firms established in Western Europe that were successful in securing some of the most advanced technologies in the West, including computer, microelectronic, nuclear, and chemical technologies.*

*In microelectronics, for example, many US firms were targeted through their affiliates in Western Europe; scientists, technicians, and commercial representatives also were successfully recruited to provide information during their trips to Europe. Although most of the military and defense-industrial information acquired by East European intelligence services went to the Soviets, much of it was used by the East Europeans themselves to benefit their military and civilian industries. The computer, microelectronic, and photographic areas were priority targets. The East European countries benefited considerably from microelectronic acquisitions, and could not have achieved the present level of development in their computer industry without illegal acquisitions of Western technology.*

These intelligence organizations have been so successful at acquiring Western technology that the manpower levels they allocate to this effort have increased significantly since the 1970s to the point where there are now several thousand technology collection officers at work. These personnel, under various covers ranging from diplomats to journalists to trade officials, are assigned throughout the world.

Soviet foreign trade organizations, or enterprises, although quasi-independent entities, are partially subordinated to the Ministry of Foreign Trade, and their activities are closely coordinated by this Ministry.

They have major responsibilities for both legal and illegal acquisitions and purchases; they work closely with the KGB and GRU in arranging trade diversions. East European trade companies assist them in clandestine and illegal acquisition operations.

Official Soviet and East European science and technology (S&T) organizations also play a major role in both open and clandestine acquisition of Western technology. The Soviet State Committee for Science and Technology (GKNT) is the key player in arranging government-to-government science and technology agreements to facilitate access to and the acquisition of established as well as new technologies, including those just emerging from Western universities, laboratories, and high-technology firms. It is the GKNT that oversees the allocation of scarce Soviet hard currency for the legal purchase by various Soviet organizations of selected Western technology for Soviet military purposes. If the GKNT is unable to acquire the necessary technology by open or legal means, it tasks Soviet intelligence to clandestinely acquire the technology.

It is the well-organized and well-coordinated use of all these organizations that has made the Soviet program to acquire Western technology so successful. As a result, the Soviets have acquired militarily significant technologies and critically important industrial Western technologies that have benefited every major Soviet industry engaged in the research, development, and production of weapon systems.

**Soviet Mechanisms for Acquiring Western Technology**  
Soviet acquisition mechanisms include: *legal means* through open literature, through legal trade channels, and through student scientific and technological exchanges and conferences; *illegal means* through trade channels that evade US and Western (i.e. CoCom)<sup>2</sup> export controls, including acquisitions by their intelligence services through recruited agents and industrial

<sup>2</sup> The Coordinating Committee (CoCom) was established in 1949 to serve as the forum for Western efforts to develop a system of strategic export controls. It is composed of the United States, the United Kingdom, Turkey, Portugal, Norway, the Netherlands, Luxembourg, Japan, Italy, Greece, France, the Federal Republic of Germany, Denmark, Canada, and Belgium.



espionage. While a large volume of technology is acquired by nonintelligence personnel, the overwhelming majority of what the United States considers to be militarily significant technology acquired by and for the Soviets was obtained by the Soviet intelligence services and their surrogates among the East European intelligence services. However, legal acquisitions by other Soviet organizations are important since it is often the combination of legally and illegally acquired technologies that gives the Soviets the complete military or industrial capability they need.

Because of the priority accorded to the military over the civilian sectors of the Soviet economy, Western dual-use technology—i.e., technology with both military and civilian applications—almost always finds its way first into military industries, and subsequently into the civilian sectors of industries that support military production. Thus, Soviet assurances that legally purchased dual-use technology will be used solely for civilian applications can seldom be accepted at face value.

Legal acquisitions generally have their greatest impact on the Soviets' broad industrial base, and thus affect military technology on a relatively long-term basis. The Soviet Kama Truck Plant, for example, was built over some seven years with massive imports of more than \$1.5 billion worth of US and West European automotive production equipment and technology. Large numbers of military-specification trucks produced there in 1981 are now being used by Soviet forces in Afghanistan and by Soviet military units in Eastern Europe opposite NATO forces. Similarly, large Soviet purchases of printed circuit board technology and numerically controlled machine tools from the West already have benefited military manufacturing sectors.

The Soviets give priority to those purchases that meet the direct needs of the Soviet military-industrial complex by paying for them in hard currency. Over the past 10 years, the Soviets legally and illegally purchased large quantities of Western high-technology microelectronics equipment that has enabled them to build their own military microelectronics industry in a short time. This acquired capability in

microelectronics is the critical basis for the present wide-ranging enhancements of Soviet military systems and for their continuing sophistication.

Acquisitions through illegal trade channels often have both industrial and military applications, and thus are important in the near term. Illegal acquisitions of technology fall into two general categories, both of which are extremely difficult to detect and monitor. One is the diversion of controlled technology from legitimate trade channels to proscribed destinations. This is done through US and foreign firms that are willing to engage in profitable impropriety; through agents-in-place in US or foreign firms or foreign subsidiaries of US firms; through Soviet- and East European-owned firms locally chartered in the West; and through foreign purchasing agents (including arms dealers). For instance, to evade the US embargo on microelectronic technology exports to the Soviet Union, the Soviets and their surrogates have set up dummy corporations in the West that purchase sophisticated microelectronics manufacturing equipment. This equipment is then shipped and reshipped, sometimes with the knowledge of individuals in the companies, to disguise its ultimate destination—the Soviet Union or Eastern Europe. Both the Soviet and Warsaw Pact intelligence services are in the mainstream of this illegal technology trade flow. The other type of diversion is an in-place diversion, in which legally acquired technology and equipment—in the computer area, for example—are put to military end uses not authorized in export license applications.

The acquisitions that most directly affect Soviet military development have come from intelligence collection and related illegal trade diversions. Soviet Bloc intelligence services have concentrated their effort in the United States, Western Europe, and Japan. These services target defense contractors and high-technology firms working on advanced technology (both classified and unclassified), foreign firms and subsidiaries of US firms abroad, and international organizations with access to advanced and/or proprietary technology, including access to computer data base networks throughout the world.

Table 1

**Major Fields of Technology of Interest to  
Soviet and East European Visitors to the United States**

|                                                    |                                                                                                                                                                                |                                                                                                                        |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Computers</b>                                   | Architecture<br>Automatic Control<br>CAD (Computer-Aided Design)<br>Cybernetics/Artificial Intelligence<br>Data Bases<br>Image Processing Design<br>Image Processing/Retrieval | Memories<br>N/C (Numerically Controlled) Units<br>Networks<br>Pattern Recognition<br>Programming<br>Robots<br>Software |
| <b>Materials</b>                                   | Amorphous<br>CAD<br>Composites<br>Cryogenics<br>Deformation                                                                                                                    | Metallurgy<br>N/C Machine Tools<br>Powder Metals<br>Superconductors<br>Testing/NDT (Non-Destructive)                   |
| <b>Semiconductors</b>                              | CAD<br>Circuits<br>Defects<br>Devices                                                                                                                                          | Design<br>Ion Implantation<br>Production Technology<br>SAW (Surface Acoustic Wave) Devices                             |
| <b>Communications, Navigation,<br/>and Control</b> | Antennas<br>Microwave/Millimeter Waves<br>Radio Wave Propagation                                                                                                               | Satellite Communications<br>Signal Processing<br>Telecommunications                                                    |
| <b>Vehicular/Transportation</b>                    | Marine Systems                                                                                                                                                                 | Shipbuilding                                                                                                           |
| <b>Laser and Optics</b>                            | Fiber Optics<br>Gas Lasers                                                                                                                                                     | Optics<br>Tunable Lasers                                                                                               |
| <b>Nuclear Physics</b>                             | Cryogenics<br>Fusion<br>Materials<br>MHD (Magnetohydrodynamics)                                                                                                                | Reactors<br>Structural Designs<br>Superconductors                                                                      |
| <b>Microbiology</b>                                | Genetic Engineering                                                                                                                                                            |                                                                                                                        |

Both legal and illegal acquisitions of US and Western technology and equipment are coordinated with information obtained through the complex network of international governmental scientific and technical agreements and exchanges that the USSR maintains with the advanced industrial nations. These include know-how, equipment, and computer data base collection activities of Soviet scientists and engineers who participate in academic, commercial, and official S&T exchanges. Visiting Soviet and East European technical and student delegations to the United States generally consist of expert scientists, many of whom are connected with classified work in their home countries. Such was the case with the Soviet scientist who managed to get assigned to fuel-air explosives work. When he finished his US study programs, he almost certainly returned to the USSR to work on related weapons. Other Soviet and East European scientists have come to the United States to work in

the aerohydrodynamic, cryogenic, optic, laser, computer, magnetic bubble computer memory, nuclear, microelectronic, and structural and electronic material areas. Given the military importance of these fields to the Soviet Union, it appears likely that a high percentage of these scientists will work on military-related programs in these areas after they return home.

From the beginning, Soviet candidates in various academic and scientific exchange programs have nearly always proposed research activities involving technologies in areas that have direct military applications and in which the Soviets are technologically deficient. Table 1 provides a list of the key high-technology fields that Soviet and East European

visitors come to the United States to study, research, or discuss, many of which are on the US Military Critical Technology List today. In each of the past two years, more than a third of the 50 program proposals offered under the Graduate Student/Young Faculty Program of the International Research and Exchanges Board (IREX) has been completely unacceptable in terms of prospective technology loss, and many other programs needed to be modified or have access constrained before the exchanges could be allowed.

The Soviets correctly view the United States and several other Western countries as a continuing source of important and openly available scientific and technical information, which they take every opportunity to obtain access to. Some of the unclassified documents so acquired are previously classified materials which had been downgraded to unclassified through US procedures providing for automatic declassification after a stipulated period. When collected on a massive scale and centrally processed by the Soviets, this information becomes significant because it is collectively used by Soviet weapons designers and weapons countermeasure experts.

The Soviets also regularly attend high-technology trade shows, and attempt to visit commercial firms in the West, particularly small and medium-sized firms that are active in developing new technologies. These apparent trade promotion efforts often mask Soviet attempts to acquire emerging Western technological know-how before its military uses have been identified and government security controls have been applied. Emerging technologies are particularly vulnerable to foreign collection efforts of this type.

Soviet intelligence continues to place a high priority on the collection of S&T information on genetic engineering and futuristic weapons such as lasers and particle beam weapons. The Soviets have been stepping up their efforts to acquire new and emerging technologies such as very-high-speed integrated-circuit (VHSIC) and very-large-scale integration (VLSI) technology from Western universities and commercial laboratories for both military and commercial applications.

Over the past few years there has been an increased use of Soviet- and East European-owned firms locally chartered in the United States and abroad to exploit Western-controlled and military-related technology. There are more than twenty Soviet- and East European-owned firms in the United States, and near the end of the 1970s there were more than 300 similar firms in Western Europe. In addition to the United States, heavy concentrations are in the United Kingdom, Sweden, the Netherlands, Italy, the Federal Republic of Germany, France, Canada, Belgium, and Austria. These firms are avenues for Soviet acquisition of advanced Western technologies, as was shown when the US engineer arrested in late 1981 was charged with selling US secret documents to an East European intelligence officer employed by a Polish-owned firm chartered in Illinois (see inset, p. 6). Furthermore, firms chartered in the United States can legally purchase controlled US technology and study it without actually violating US export controls unless they attempt to export the equipment or related technical data from the United States without a license.

#### **Soviet Acquisitions and Benefits**

Today's recognition of the crucial role of Western technology in the development and production of Soviet weapon systems and related military equipment is not unique. Soviet dependence on Western technology was visible and clear-cut in the years immediately after World War II, when the Soviets stole Western nuclear secrets leading to their development of a nuclear weapon capability, and copied a US bomber in its entirety leading to production of their TU-4. To achieve major improvements in their military capability quickly, they exploited captured scientists and industrial plants and resorted to a combination of espionage, stealing, and copying Western systems.

Since that early period of near-complete reliance in the 1950s, the Soviets' dependence on Western technology to develop their weapons has decreased. Nevertheless, despite several decades of Soviet priorities focused on science, technology, and weapon systems, the Soviets, because of their inability to be innovative

**US Radar Expert Passes Over 20 Significant Classified Reports on Future US Weapon Systems to Intelligence Agent**

William H. Bell, a radar project engineer for a high-technology US defense firm was recruited by an intelligence officer who operated under cover as a vice president of the Polish firm called Polamco. This firm is a subsidiary of the Polish Government Corporation and is incorporated in Illinois and Delaware. It began as an importer/exporter of machinery, parts and tools and as a consultant to firms exporting these products to Poland. The recruitment began as a simple friendship between neighbors with mutual sporting interests, grew quickly to include their families, then to proving Bell's credentials by showing a classified document to the agent, and then to passing microfilm copies of classified reports at meeting places in the US, Switzerland, and Austria. Mr. Bell was in financial straits and was easily influenced by the cash proffered—a total of \$110,000 over a three-year period. In all, over 20 highly classified reports on advanced future US weapon systems or their components were passed to the Polish Intelligence Service and probably eventually to the Soviet Intelligence Service.

Among the classified reports, those of prime importance to the West included: the F-15 look-down-shoot-down radar system, the quiet radar system for the B1 and Stealth bombers, an all-weather radar system for tanks, an experimental radar system for the US Navy, the Phoenix air-to-air missile, a ship-borne surveillance radar, the Patriot surface-to-air missile, a towed-array submarine sonar system, a new air-to-air missile, the improved HAWK surface-to-air missile, and a NATO air-defense system. The information in these documents put in jeopardy existing weapons and advanced future weapon systems of the United States and its Allies. The acquisition of this information will save the Polish and Soviet Governments hundreds of millions of dollars in R&D efforts by permitting them to implement proven designs developed by the United States and by fielding operational counterpart systems in a much shorter time period. Specifications on current and future US weapon systems will enable them to develop defensive countermeasure systems.

and effectively apply new technology to weapons developments, still depend on Western technology and equipment to develop and manufacture some of their advanced weapon systems more quickly.

Today, Soviet military designers carefully choose the Western designs, engineering approaches, and equipment most appropriate to their deficiencies and needs. These needs are still substantial and pervade almost every area of weapons technology and related manufacturing equipment. Table 2 lists classes of Western technology acquired by the Soviets and East Europeans and illustrates the wide range of Soviet military technology needs. In the following paragraphs of this section, Soviet Bloc acquisitions have been grouped according to their likely applications: strategic systems, aircraft systems, naval systems, and tactical systems. Also cited are acquisitions in the microelectronic and computer areas that have broad application to military and industrial programs. In certain of these areas, notably the development of microelectronics, the Soviets would have been incapable of achieving their present technical level without the acquisition of Western technology. In other areas, acquisitions have allowed the Soviets to reduce the indigenous effort they would otherwise have had to expend.

The Soviets' strategic weapons program has benefited substantially from the acquisition of Western technology. The striking similarities between the US Minuteman silo and the Soviet SS-13 silo very likely resulted from acquisition of US documents and expedited deployment of this, the first Soviet solid-propellant ICBM. The Soviets' ballistic missile systems in particular have, over the past decade, demonstrated qualitative improvements that probably would not have been achieved without Western acquisitions of ballistic missile guidance and control technology. The most striking example of this is the marked improvement in accuracy of the latest generation of Soviet ICBMs—an improvement which, given the level of relevant Soviet technologies a decade ago, appears almost certainly to have been speeded by the acquisition of Western technology. Their improved accuracy has been achieved through the exploitation and development of good-quality guidance components—such



Table 2

**Selected Soviet and East European Legal and Illegal Acquisitions  
From the West Affecting Key Areas of Soviet Military Technology**

| Key Technology Area     | Notable Success                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Computers               | Purchases and acquisitions of complete systems designs, concepts, hardware and software, including a wide variety of Western general purpose computers and minicomputers, for military applications.                                                                                                                                                                                                                                                                 |
| Microelectronics        | Complete industrial processes and semiconductor manufacturing equipment capable of meeting all Soviet military requirements, if acquisitions were combined.                                                                                                                                                                                                                                                                                                          |
| Signal Processing       | Acquisitions of processing equipment and know-how.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Manufacturing           | Acquisitions of automated and precision manufacturing equipment for electronics, materials, and optical and future laser weapons technology; acquisition of information on manufacturing technology related to weapons, ammunition, and aircraft parts including turbine blades, computers, and electronic components; acquisition of machine tools for cutting large gears for ship propulsion systems.                                                             |
| Communications          | Acquisitions of low-power, low-noise, high-sensitivity receivers.                                                                                                                                                                                                                                                                                                                                                                                                    |
| Lasers                  | Acquisitions of optical, pulsed power source, and other laser-related components, including special optical mirrors and mirror technology suitable for future laser weapons.                                                                                                                                                                                                                                                                                         |
| Guidance and Navigation | Acquisitions of marine and other navigation receivers, advanced inertial-guidance components, including miniature and laser gyros; acquisitions of missile guidance subsystems; acquisitions of precision machinery for ball bearing production for missile and other applications; acquisition of missile test range instrumentation systems and documentation and precision cinetheodolites for collecting data critical to postflight ballistic missile analysis. |
| Structural Materials    | Purchases and acquisitions of Western titanium alloys, welding equipment, and furnaces for producing titanium plate of large size applicable to submarine construction.                                                                                                                                                                                                                                                                                              |
| Propulsion              | Missile technology; some ground propulsion technology (diesels, turbines, and rotaries); purchases and acquisitions of advanced jet engine fabrication technology and jet engine design information.                                                                                                                                                                                                                                                                 |
| Acoustical Sensors      | Acquisitions of underwater navigation and direction-finding equipment.                                                                                                                                                                                                                                                                                                                                                                                               |
| Electro-optical Sensors | Acquisition of information on satellite technology, laser rangefinders, and underwater low-light-level television cameras and systems for remote operation.                                                                                                                                                                                                                                                                                                          |
| Radars                  | Acquisitions and exploitations of air defense radars and antenna designs for missile systems.                                                                                                                                                                                                                                                                                                                                                                        |

as gyroscopes and accelerometers. The quality of these instruments, in turn, depends to a considerable degree on the quality of the small, precision, high-speed bearings used.

Through the 1950s and into the 1960s, the Soviet precision bearing industry lagged significantly behind that of the West. However, through legal trade purchases in the 1970s, the Soviet Union acquired US precision grinding machines for the production of small, high-precision bearings. Similar grinding machines, having lower production-rate capabilities, were available from several foreign countries. Only a few of these machines, either US or foreign, would have been sufficient to supply Soviet missile designers with all the quality bearings they needed. These purchases provided the Soviets with the capability to manufacture precision bearings in large volume soon-

er than would have been likely through indigenous development. The Soviets probably could have used indigenous grinding machines and produced the required quality of bearings over a long period by having an abnormally high rejection rate.

While some of the Soviet acquisition in the aircraft area appears directed toward the development of countermeasures against Western systems, the Soviets appear to target data on Western aircraft primarily to acquire the technology. Furthermore, while the Soviets have acquired a large amount of hardware and data from planes downed or captured in Vietnam and elsewhere, they continue to attempt to acquire the most advanced technologies through both legal and illegal transactions with the West. Assimilation of

Western technology has been of great benefit to both their military and commercial aircraft development programs—to the extent that aircraft from certain Soviet military design bureaus are to a significant degree copies of aircraft of Western design. Soviet military aircraft designers have "ordered" documents on Western aircraft and gotten them within a few months, including plans and drawings for the US C-5A giant transport aircraft early in its development cycle; these plans, although dated now, have contributed to current Soviet development of a new strategic military cargo plane. Designers were in particular need of data on US technological advances, but more importantly, they needed information on aerospace manufacturing techniques.

Soviet aircraft designers have been interested in US military transports and wide-body jets and probably have managed to accelerate the development programs for their IL-76 Candid and IL-86 transports. The IL-86 looks much like the Boeing 747 and the IL-76 resembles the C-141. Neither system is an identical copy.

The IL-76 also is used by the Soviets as the platform for their new AWACS (Airborne Warning And Control System), which is expected to be operational in the mid-1980s. This system will provide the Soviets with a major improvement in attacking low-flying missiles and bombers. The Soviet AWACS is strikingly similar in many ways to the US AWACS, and is a major improvement over their old AWACS.

The Soviets' acquisition effort in the naval systems area reflects well the two major factors that motivate their requirements: the acquisition of technology not readily available to them—yet critical to their programs—and the acquisition of equipment which, while producible in the Soviet Union, allows them to divert resources to more pressing naval programs. The Soviets appear to have concentrated their acquisitions in areas related to aircraft carriers, deep sea diving capabilities, sensor systems for antisubmarine warfare and navigation, and ship maintenance facilities. In the maintenance area, two huge floating drydocks purchased from the West for civilian use by the Soviets have been diverted to military use. Drydocks are critical for both routine and fast repair of ships

damaged in warfare. In 1978, when the Soviets took possession of one of the drydocks, they diverted it to the Pacific Naval Fleet. The other was sent to the Northern Fleet in 1981.

These drydocks are so large that they can carry several naval ships. More importantly, they are the only drydock facilities in either of the two major Soviet fleet areas—Northern or Pacific—capable of servicing the new Kiev-class V/STOL aircraft carriers. Soviet advanced submarines carrying ballistic missiles, Soviet Kiev aircraft carriers, and Soviet destroyers were among the first ships repaired in these drydocks. It is important to note that the drydocks themselves are so large that no Soviet shipyard would have been capable of accommodating their construction without major facility modifications, associated capital expenditures, and interruptions in present weapons programs. Their importance will be even more pronounced when the Soviets construct the still-larger carriers (for high-performance aircraft) projected for the 1990s. The Soviets even have acquired Western aircraft carrier catapult equipment and documentation for this larger carrier; catapult technology, though relatively common in the West, is outside the Soviet experience.

Within the past few years, the USSR also has contracted for or purchased foreign-built oceanographic survey ships equipped with some of the most modern Western-manufactured equipment. In place of US equipment that was embargoed, other Western equipment has been installed on the ships. This modernization of what is the world's largest oceanographic fleet with Western technology will help support the development of Soviet weapon system programs and anti-submarine systems against the West.

Although the Soviets have a strong indigenous technology base that could support the development of much of their tactical weapons systems, this does not prevent them from maintaining an ambitious program for acquiring and benefiting from Western technology in this area. In some cases, their acquisitions satisfy deficiencies in Soviet technology; smart weapons technology and electro-optical technology are examples of

Table 3

**Microelectronic Equipment and Technology  
Legally and Illegally Acquired by the Soviet Bloc**

| Equipment or Technology                                  | Comments                                                                                                                                                                                                                            |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process Technology for Microelectronic Wafer Preparation | The Soviets have acquired hundreds of specific pieces of equipment related to wafer preparation, including epitaxial growth furnaces, crystal pullers, rinsers/dryers, slicers, and slapping and polishing units.                   |
| Process Technology for Producing Circuit Masks           | Many acquisitions in this area include computer-aided design software, pattern generators and compilers, digital plotters, photorepeaters, contact printers, mask comparators, electron-beam generators, and ion milling equipment. |
| Equipment for Device Fabrication                         | Many hundreds of acquisitions in this area have provided the Soviets with mask-aligners, diffusion furnaces, ion implanters, coaters, etchers, and photochemical process lines.                                                     |
| Assembly and Test Equipment                              | Hundreds of items of Western equipment, including scribes, bonders, probe testers, and final test equipment have been acquired by the Soviets.                                                                                      |

this. Signal and information-processing technology, particularly for Soviet air defense systems, is another. More often, however, technology is exploited to speed up a developmental program or to improve upon original Western designs in an expeditious manner. The Soviets appear to have concentrated their tactical systems acquisitions on Western tank, antitank, and air defense-related technology and equipment in order to derive concepts and know-how to benefit their weapons programs and to design countermeasures to the Western systems. The Soviet SA-7 heat-seeking, shoulder-fired anti-aircraft missile contains many features of the US Redeye missile. Such acquisitions have enabled the Soviets to obtain advanced tactical weapon capabilities sooner than otherwise would have been possible.

Western equipment and technology have played a very important, if not crucial, role in the advancement of Soviet microelectronic production capabilities. This advancement comes as a result of over 10 years of successful acquisitions—through illegal, including clandestine, means—of hundreds of pieces of Western microelectronic equipment worth hundreds of millions of dollars to equip their military-related manufacturing facilities. These acquisitions have permitted the Soviets to systematically build a modern microelectronics industry which will be the critical basis for enhancing the sophistication of future Soviet military

systems for decades. The acquired equipment and know-how, if combined, could meet 100 percent of the Soviets' high-quality microelectronic needs for military purposes, or 50 percent of all their microelectronic needs.

Table 3 identifies the microelectronic production-related equipment that has been acquired by the Soviet Bloc. These acquisitions have been grouped into areas related to the four steps required to produce a microchip: wafer preparation, circuit-mask making, device fabrication, and assembly and testing.

Soviet computer technology has long been limited by fabrication and production technology problems and by difficulties in software development. Since 1969 the USSR and East European countries have been developing a family of general purpose computers known as the Ryad series. These computers, which make up virtually the total Soviet and East European effort in large general purpose computers, have been and will continue to be used in a wide variety of civil and military applications. Western technology has been important to development of the Ryad series by providing proven design directions both at the system and component levels. The architectural designs of the

Ryad computers, for example, are patterned after those of the highly successful mass produced IBM 360 and 370 series, computers that are used in a wide range of applications and are highly serviceable in the field.

With this approach, the Soviets and East Europeans eliminated many of the risks involved in undertaking the development and production of a new series of general purpose computers, and saved considerable amounts of manpower and time. Since the early 1970s the Soviets and East Europeans have legally purchased more than 3,000 minicomputers, some of which are now being used in military-related organizations. Furthermore, they are also developing minicomputers that are direct copies of Western models. Soviet and East European development of computer systems has been aided by all available means—legal and illegal, including clandestine—for acquiring the needed technical know-how.

Thus, the Soviets and their Warsaw Pact allies have derived significant military gains from their acquisitions of Western technology, particularly in the strategic, aircraft, naval, tactical, microelectronics, and computer areas. This multifaceted Soviet acquisitions program has allowed the Soviets to:

- Save hundreds of millions of dollars in R&D costs, and years in R&D development lead time (see inset).
- Modernize critical sectors of their military industry and reduce engineering risks by following or copying proven Western designs, thereby limiting the rise in their military production costs.
- Achieve greater weapons performance than if they had to rely solely on their own technology.
- Incorporate countermeasures to Western weapons early in the development of their own weapon programs.

These gains are evident in all areas of military weapons systems. While difficult to quantify, it is clear that the Western military expenditures needed to overcome or defend against the military capabilities derived by the acquisition of Western technology far outweigh the West's earnings from the legal sales to the Soviets of its equipment and technology.

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#### ***Soviet Intelligence Officer Reveals Technology Acquisition Saved Soviet Military Hundreds of Millions of Rubles***

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*A former Soviet intelligence officer revealed that information on Western military-related technology acquired by the Soviet intelligence services saved the Soviet military industry hundreds of millions of rubles. The acquisition of Western technology operationally was assigned the highest priority for collection by local residencies in key West European countries because of the relatively easy access to much US and Western technology in Europe and the praise being received by the services for their acquisition efforts.*

*These acquisitions were directed by the military manufacturing industries under the Council of Ministers, and there was intense competition between the intelligence services to acquire Western technology needed for weapons development programs. Of particular need by Soviet weapons designers has been the acquisition of knowledge on special materials, notably the weaving of carbon filaments in a three dimensional configuration which the services were tasked to acquire. The end products from this 3-D carbon-carbon weaving technology are useful for ablative heat shields for high velocity reentry vehicles (the warhead part of ICBMs and SLBMs) and for other portions of rocket motors for large missiles. The Soviet acquisition of some of this technology is likely to enable them to eventually gain a capability for increased military options against the West—a capability that otherwise would have taken them several additional years to develop themselves. The intelligence services also worked closely with scientists from the Soviet military manufacturing industries and even planned joint operations against Western Trade and Equipment Fairs in order to acquire needed Western technology.*

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#### Outlook for the 1980s

The Soviets' military R&D and weapon test-and-evaluation efforts are continuing at a rapid pace. Several hundred development projects for weapons systems and major system elements are now under way, and it is expected that through the 1980s the number of new or modified advanced Soviet weapon systems emerging from these projects into production and deployment will remain at the high levels of the last two decades—some 200 weapon systems per decade.

Soviet military manufacturing capacity increased by a significant 80 percent during the 1960s and 1970s, and new plant expansion now under way at one-fourth of their key weapons manufacturing facilities will add considerably to their capabilities. These new facilities will be ready to produce weapons in the next four to 10 years. Plant expansion is in the following areas: ground warfare vehicles, including new tanks; aviation, including facilities for a new B-1-type bomber and a new long-range military transport aircraft having strategic airlift capabilities; naval shipbuilding, including submarines for ballistic missiles and cruise missiles, as well as full-size aircraft carriers for high-performance aircraft capable of competing with the United States in global operations; and electronic and microelectronic manufacturing facilities throughout the USSR. The development and production of new Soviet weapons at these facilities is sure to be more complex and costly than during the 1970s.

All of this military development and plant expansion activity, however, is taking place at a time when the Soviet economy has reached its lowest level of growth since World War II. Soviet annual GNP growth may well be limited to an average of 1 to 2 percent by the mid-1980s. Stagnation in industrial sectors that are key to both the civilian and the military sectors will make it increasingly difficult for the Soviets to satisfy the needs of both. Thus, Soviet leaders will have to make tough choices among defense, investment, and consumption; the competition among rival claimants for resources will become intense. Under these conditions, it may be impossible for the Soviets to maintain current growth in military production without hurting the civilian economy.

Despite these economic difficulties, there are no signs that the Soviets are shifting resources away from the military sector or slowing down development of weapon systems that will be entering the production stage by mid-decade. New generations of Warsaw Pact weapons will require selected critical component and modern manufacturing technologies. It is in these areas that Soviet illegal acquisitions of Western technology, complemented by legal acquisitions, are most likely to be concentrated over the next five to 10 years.

Among the more important technologies are microelectronics, computers, and signal processing. Microelectronics will play a very significant role in advances in computers and signal processing, and all of these technologies will be important in developing advanced Soviet missile, aircraft, naval, and tactical weapon systems, and associated detection systems. Additional projected Soviet technological needs related to such systems are presented in the appendix.

As the result of both tactical and strategic force modernizations, Soviet and Warsaw Pact military manufacturers are increasingly pressed by large-scale production requirements and the related need to control manufacturing and materials costs. Thus, particularly critical for the 1980s are Soviet needs to improve their manufacturing capability. To a large extent, the level of manufacturing technology in Soviet plants determines the Soviets' capability to move new technology from R&D into military applications. Manufacturing technologies play a significant role not only in the development of advanced component technologies, such as microelectronics and computers, but also in the actual production of modern military systems.

Future Soviet and Warsaw Pact acquisition efforts—including acquisitions by their intelligence services—are likely to concentrate on the sources of such component and manufacturing technologies, including:

- Defense contractors in the United States, Western Europe, and Japan who are the repositories of military development and manufacturing technologies.

- General producers of military-related auxiliary manufacturing equipment in the United States, Western Europe, and Japan.
- Small and medium-size firms and research centers that develop advanced component technology and designs, including advanced civil technologies with future military applications.

The combination of past Soviet acquisition practices and projected Soviet military needs indicates that the United States and its Allies are likely to experience serious counterintelligence and related industrial security and export control problems over the next five to 10 years.

The task of stopping Soviet Bloc intelligence operations aimed at Western military and industrial technologies already poses a formidable counterintelligence problem, both in the United States and abroad. But that task is likely to become even more difficult in the future as several trends identified in the 1970s continue into the 1980s:

- First, since the early 1970s, the Soviets and their surrogates among the East Europeans have been increasingly using their national intelligence services to acquire Western civilian technologies—for example, automobile, energy, chemicals, and even consumer electronics.
- Second, since the mid-1970s, Soviet and East European intelligence services have been emphasizing the collection of manufacturing-related technology, in addition to weapons technology.
- Third, since the late 1970s, there has been increased emphasis by these intelligence services on the acquisition of new Western technologies emerging from universities and research centers.

The combined effect of these trends is a heavy focus by Soviet Bloc intelligence on the commercial sectors in the West—sectors that are not normally protected from hostile intelligence services. In addition, the security provided by commercial firms is no match for the human penetration operations of such foreign

intelligence services. But the most alarming aspect of this commercial focus by Soviet Bloc intelligence services is that as a result of these operations the Soviets have gained, and continue to gain, access to those advanced technologies that are likely to be used by the West in its own future weapons systems.

The Soviet intelligence effort against Western defense contractor firms poses a serious problem in itself. With more than 11,000 such firms in the United States and hundreds of subsidiaries abroad, US counterintelligence efforts are stretched thin. Protection of US firms abroad from hostile intelligence threats is the responsibility of host governments, but they too are feeling the burden of well-orchestrated Soviet Bloc efforts. The Soviet intelligence threat and the illegal trade problem appear to be severe in Japan. It appears that Western industrial security—both defense and commercial—will be severely tested by the Soviet intelligence services and their surrogates among the East European intelligence services during the 1980s.

Western industrial nations also can expect increased Soviet Bloc intelligence activities directed at the acquisition of their key industrial technologies. Western export controls are presently being updated and broadened; the CoCom allies have recently agreed to strengthen controls and to enhance their enforcement. Moreover, serious hard currency shortages, along with generally increased restrictions on Soviet S&T visitors to the United States, will make the Soviets even more dependent on intelligence and other illegal efforts to acquire the goods and equipment they will need.

The massive, well-planned, and well-coordinated Soviet program to acquire Western technology through combined legal and illegal means poses a serious and growing threat to the mutual security interests of the United States and its Allies. In response, the West will need to organize more effectively than it has in the past to protect its military, industrial, commercial, and scientific communities.

## Appendix

### Projected Soviet Technological Needs and Acquisition Targets Through the 1980s

Given the dynamic nature of their collection program, it is expected that the Soviets will continue their attempts to acquire a broad range of Western technologies. Certain areas, however, represent priority collection targets for them; these areas are critical to the Soviets' enhancement of their weapons capability.

Over the past decade, the Soviets' most pronounced improvements in strategic weaponry have been in the development of a MIRV ballistic missile capability and a significant improvement in the accuracy of their ICBMs. The former capability was made possible largely through the introduction of onboard digital computers and the latter through the improvement in the quality of the missile guidance systems and the procedures used to calibrate them. Technology acquisitions from the West contributed significantly to these improved capabilities.

The Soviets probably will continue to make their highest priority the acquisition of Western microelectronics and computer technology for in-flight guidance computers. This acquisition effort will be motivated by a desire to overcome reliability problems and also to provide the on-board processing capability required for the development of new guidance options with the potential for extremely high accuracies.

The Soviets will also give top priority to acquiring information on the latest generation of US inertial components upon which the MX ICBM and the Trident SLBM guidance systems are based. Despite the past accuracy improvements of Soviet ICBMs, these two US systems incorporate technologies beyond present Soviet technological capabilities. Moreover, their SLBM accuracies are significantly behind those of US systems. In addition to information on hardware, the Soviets are expected to seek calibration software algorithms which, as the guidance instruments themselves reach their practical performance limit, would allow for continued improvement in weapon system accuracy.

Western solid rocket propulsion technology also will be a high-priority Soviet acquisition target in the 1980s. While the Soviets have vast experience with the liquid-propellant systems which represent the bulk of their ballistic missile force, they are shifting their emphasis to solid propulsion systems, which have practical advantages over liquid systems in a variety of applications. At the same time, the Soviets have had only limited success with the progress of their solid-propulsion program. They probably will pursue the acquisition of information on solid-propellant production procedures, and propellant grain design, motor case, and rocket nozzle technologies.

The Soviets' ABM R&D effort has continued apace since the 1960s. As a result, they have gained considerable expertise in the development of large fixed-site radars for early warning, tracking, and engagement, and their interceptor technology has also improved substantially over the years. Areas remain, however, in which the Soviets will still seek and would benefit from sophisticated Western ABM technology. These include signal processing for detection, discrimination, target assignment, and sensor technology, particularly in the long-wave infrared portion of the electromagnetic spectrum applicable toward improving their launch detection capability.

Priority Soviet targets in the aircraft area will include Western materials technology, particularly composite materials to allow weight-efficient designs. The Soviets would also benefit from the acquisition of certain engine technologies, in particular those critical to the development of high-bypass turbofans for large strategic airlift type of aircraft. While, in general, Soviet avionics technology appear adequate, the Soviets have yet to demonstrate a capability to deploy reliable, accurate airborne inertial navigation systems for long-range navigation and weapons delivery. Thus, while long used in the West, these systems are still prime candidates for acquisition.

Very high priority probably will be given to the acquisition of computer-aided aircraft design technology, an area in which the Soviets are clearly impressed by US progress. In general, they also will continue to benefit from the acquisition of efficient aircraft production technology from the West to reduce costs.

While the Soviets have a strong indigenous air defense radar and missile technology, their general lag in microelectronics and microprocessing will direct them to attempt wherever possible in the West the acquisition of advanced signal-processing hardware and software.

The Soviets will continue to emphasize the acquisition of naval-related technologies applicable to improving their antisubmarine warfare capabilities, an area in which much Western technology is superior to theirs. Thus, a significant effort to acquire acoustic sensor technology can be expected, in particular that technology applicable to the development of large towed acoustic arrays that would assist the localization of Western submarines in open waters. They probably will also target the acquisition of Western signal-processing hardware and software required to fully exploit the detection capabilities of these sensors.

Another critical problem area to which the Soviets will direct acquisition is that of submarine quieting. Here also the Soviets lag the West significantly. As a result, not only are their submarines more vulnerable to detection, but the self-generated noise reduces the effectiveness of their own acoustic sensors.

An area in which the Soviets have historically lagged behind the West is precision submarine navigation—in particular, in the development of submarine inertial navigation systems. The need for improvements here will become more pressing as the Soviets develop long-range cruise missiles for land attack which require precise knowledge of launch location.

The Soviets also will continue to target technologies related to the design and construction of large aircraft carriers (for high-performance aircraft) to reduce the likelihood of poor design choices that would arise in what is for them an entirely new type of construction program.

Much of the Soviet acquisition effort in the area of tactical weapons is likely to be targeted against seeker and sensor technology for tactical missiles and precision-guided munitions. The Soviets will apply considerable effort in particular to acquiring advanced Western electro-optical technology including that related to antitank weapons. As in other weapons areas, the signal processing and microelectronics technologies supporting tactical weapon systems will also be priority acquisition targets. Technical documentation on entire weapon systems, if obtained, will be used to develop countermeasures.

In the microelectronics area the USSR is now at the stage of implementing its LSI (large-scale integration) technology to high-volume production. Despite the large acquisitions of Western technology and production equipment over the past 10 years which have brought them to the LSI level, additional acquisitions from the West are needed for the more sophisticated weapons projects of the future. Ever-increasing needs for higher precision Western equipment will extend at least through the 1980s.

In addition, the Soviets will require considerable expansion of their microelectronic material base to support continued expansion of integrated-circuit production. In this regard, the USSR is seeking Western help to build two or three poly-silicon plants that will more than double current Soviet capacity for military applications. Also, with increasing advances in the technology, the USSR already will be seeking additional Western assistance in key complementary technologies such as packaging and printed circuit board production.

The USSR is expected to focus its future acquisitions efforts on the emerging technologies related to very-high-speed integrated circuits (VHSIC) and very-large-scale integration (VLSI). It is important to note that, while VHSIC is thought of as a military development program, and VLSI as a civilian technology, there is little difference between the two as far as Soviet production needs are concerned. The same materials, production, and test equipment will be used to produce both. In both of these technological areas, the USSR has developed effective means for illegally acquiring Western advanced products.



Prime Soviet collection efforts in computer technology through the 1980s are likely to include large-scale scientific computers such as the US-built CRAY-1 Computer. Computers of this class offer significant improvements over Soviet models in weapons-systems design and simulation and in the processing of numerical data for many military applications. Other hardware targets will include: very dense random-access memory chips; high-capacity disk drives and packs; the so-called "superminicomputer" class of machines; and the latest in general purpose computer technology. All of the above targets offer opportunities for significant performance improvements and represent technologies of substantial Soviet lag.

In computer software, the Soviets will continue to attempt to collect IBM programs and programs of other vendors written for these machines because of past Soviet decisions related to copying IBM computers. The large and growing number of IBM-compatible computers in the USSR means that collection activity in this area can be expected to increase. The compelling attraction of computer networks also should spur great Soviet interest in acquiring network-control software and other programs related to networking.

Senator HEINZ. Also you indicate some concern over certain current technologies that might again get away from us. You mention robotics, computerized message switching, et cetera. Can you furnish us with a more complete list of specific concerns in that area?

Dr. IKLE. Yes, we can. And these, of course, are the concerns that we have raised in CoCom, too, and pushed there.

Senator HEINZ. Yes.

[Copy of list received follows:]

#### TECHNOLOGIES WHICH POSE THE GREATEST RISK TO U.S. SECURITY

Computers; Microelectronics; Semiconductors; Propulsion, Engine, Turbine Technology; Laser and Optics; Nuclear Physics; Fibre Optics; Advanced Structural Materials (Materials Processing, Precision and Batch Machine Tools); Microbiology; Acoustical Sensors; Electro-Optical Sensors; Radars; Navigation and Control; Robotics; Communications and Switching Equipment; Precision Instruments

#### COCOM MEETINGS

Senator HEINZ. Let me ask you this. Your statement is very strong. Yet, as you note in your statement, you did not sit down with CoCom, at least officially, until this January, a year after the administration had taken office. Why did we have to wait a year for that?

Dr. IKLE. It took us quite a while to negotiate with our allies the agreement to hold this meeting, which was the first meeting since the 1950's at that higher level. There were, of course, working group meetings all along.

But, in a way, the organization became somewhat dormant over the last decade and it required a stimulus to really revitalize it and to get the consensus of our allies to give it this push.

Senator HEINZ. As I understand your statement regarding the January CoCom meeting, you believe that it was quite successful. And as I understand your statement, the other countries have agreed to set up a military defense committee to work with the CoCom, is that right, to advise them on the military significance of technology, or do I misunderstand?

Dr. IKLE. The agreement that we achieved was not quite that formal. They agreed to facilitate the participation of military experts in meetings, and we will further advance that idea because it seems obvious to us that the question of strategic transfers, the criteria, indeed, should fully benefit from the input of the military side in each of the capitals in the alliance.

Senator HEINZ. Now it's my understanding that France and Great Britain do involve regularly their defense establishments in export licensing decisions, but that the rest of NATO and Japan does not. Is this going to be any different as a result of what you say you achieved at CoCom?

Dr. IKLE. I think that we have established the fact or the obvious requirement that there has to be more of a military input. We also started last year, indeed, a study in NATO, as distinct from CoCom, on technology transfer, which, of course, has the contribution from the military side. And we arranged so that that study would become available to CoCom, in a formal sense. You recognize the delicate separation because of the important participation of Japan in CoCom, it cannot be a NATO organization.

Also, the French took a very important step in that they made a decision late last year, a new structure for the management of technology transfer that far more directly involves the minister of defense.

Senator HEINZ. In your prepared statement you comment, and I'm glad you do, on the question of Western government credits for the U.S.S.R. And you note, quite correctly, that there is an export credit war, not of our making, but of the Europeans', taking place, that officially subsidized, deeply subsidized, credits are the rule, not the exception, and that the Soviet Union, uniquely, by most standards, a developed country, nonetheless gets underdeveloped country status from our NATO allies and Japan because they benefit from these deeply subsidized official export credits.

#### EXIMBANK NEGOTIATIONS

Now if there's one thing that I know the Reagan Defense Department believes in, it's negotiating from strength, not from weakness. But, on the other hand, we are now, when it comes to officially subsidized export credits, by virtue of OMB undercutting the Eximbank, negotiating when it comes to an end to the export credit war precisely from weakness.

My question to you is this: Don't you think the Defense Department has a very direct interest in our having a sufficiently credible Eximbank so that when we threaten to go in and match subsidies to show the Europeans that they can't get away with them, that, indeed, that threat is worth something, and so we can negotiate an end to this kind of subsidized export credit, which Senator Proxmire, Senator Garn, virtually every member of this committee, has been concerned with?

Dr. IKLE. Senator, that's a very important idea, a very important question. I assume your question does not imply that we should go so far in acquiring strength for negotiating with our allies to reduce subsidized credits, that we should go as far as starting big subsidized credits to the Soviet Union just to show them that we can do it.

Senator HEINZ. No, not at all. What my question implies is this: Why doesn't the Defense Department speak up in favor of a strong Eximbank so that we have something to negotiate with other than unilateral disarmament in the export credit field?

Dr. IKLE. Well, we do have the threat that if it comes to a trade war where within the alliance we compete in helping the Soviet Union, that we can go further, too. Indeed——

Senator HEINZ. Well, I'm not suggesting that. What I'm trying to say, we have been conducting a series of negotiations within the OECD to try and get them to end subsidies generally.

Dr. IKLE. Right.

Senator HEINZ. Now as of today, our trade competitors are still engaged in subsidized export credit financing, not only to nondeveloped countries, but to the Soviet Union as well. One foolproof way, though, to get them out of subsidizing the Soviet Union is to get them out of subsidizing entirely. And you can't do that unless we have a credible position from which to negotiate. You, of all people, understand the importance of a credible position from which to ne-

gotiate. And let me just suggest to you that you have an interest, a direct interest, in the strength of our negotiating posture, though it's not your area directly, it's up to USTR and Mac Baldrige and the Eximbank people. But let me suggest to you that you have a very direct interest here, and for a second reason as well.

When we are unable to support the export of products through Exim, what happens instead? I think you know the answer to that. What happens is American firms tend to license and with that licensing goes technology. More important than patents is know-how. Once it gets overseas, we have given it to others, whether the Warsaw Pact or not is irrelevant. We're in a trade war all over this world right now and it all comes back to haunt us in one way or another. But also, specifically from your point of view, the controls that other countries have, as we know, are somewhere between variable to nonexistent.

And so I would suggest for that reason, when we have a weak Eximbank, it not only makes negotiations difficult, but indeed, it encourages the very thing that you seek to stop, which is technology transfer when it's unnecessary.

Let me ask you one last question, and it's this. This is an oversight hearing. In your statement, you did not ask that the Congress take any additional actions. You have not asked us to make any amendments to the Export Administration Act. Am I correct that you do not seek any action from the Congress at this time?

Dr. IKLE. We expect that the administration will be seeking some congressional legislative action in this area.

Senator HEINZ. You do? When might that be?

Dr. IKLE. Dr. Bryen?

Dr. BRYEN. We're reviewing now some of the problems that we see in the Export Administration Act. And I would expect by early summer we would be ready with some suggestions for change.

Senator HEINZ. In the meantime, is there anything that you can do administratively? And if so, can you submit that for the committee, what you are doing administratively?

Dr. BRYEN. Certainly. We certainly can.

I think that we would very much like to share what we're undertaking in the Defense Department.

Senator HEINZ. I won't take the time of the committee to get into all of those details, but we would like to have that for our records, please. Senator Garn?

Senator GARN. Thank you, Mr. Chairman. I understand that Secretary Ikle has a scheduling problem, so I will submit my questions to you for your response in writing to save your time and the committee's.

[The following information was received for the record:]

ASSISTANT SECRETARY OF DEFENSE, WASHINGTON, D.C.

#### DEFENSE QUESTIONS

Senator GARN. What is the current status of the Critical Technologies List? How often should that be updated? How adequate can an automatic updating procedure, indexing, be to respond to the variables of Soviet bloc technological needs?

ANSWER. The Militarily Critical Technologies List (MCTL) is being updated annually for several reasons. A 1982 Draft MCTL to update the document based on a scrub of the 1981 document, additional analysis of the export control lists and feed-



back from the Technical Task Groups (TTG's) working on the CoCom List Review are now in an interagency review cycle. The 1982 Revised MCTL will be published on 1 October 1982 and is classified Secret—NOFORN. The annual review and update cannot be replaced by an automatic updating procedure such as indexing. Neither the generation of technology nor the Soviet requirements for technology are a straight-line function. Our export controls should not be a straight-line function either.

Senator GARN. Soviet access to hard currency plays an important role in the transfer of technology. Some people may be willing to sell high technology to the Soviets, but they aren't very willing to be paid for it in rubles. In your evaluation, to what extent can Soviet access to high technology be affected by limiting Soviet access to hard currency?

ANSWER. Soviet hard currency earnings are essential to the legal and illegal acquisition of sophisticated Western technology used to shore up the Soviet military industrial complex. Without the current rate of hard currency earnings, the Soviets would have to increase R&D expenditures drastically in order to continue their massive military build-up. At present, the Soviets have maintained a steady increase in their military spending over the last two decades, despite a slowdown in the growth of their overall economy. They have used hard currency earnings to acquire sophisticated Western technology with military applications that would be too expensive and time consuming for them to develop at home.

Senator GARN. What should our national security controls policy be with regard to Yugoslavia?

ANSWER. Yugoslavia, as a leading non-aligned nation, maintains ties with the United States and other Western nations. As in the past, our dealing with Yugoslavia as regards sales of technologically significant equipment are considered on a case-by-case basis.

Senator GARN. Aren't current national security controls focused too narrowly, relating primarily to the development of actual weapons systems and not sufficiently including items that facilitate military infrastructure and the capacity for military buildup generally?

ANSWER. The U.S. Commodity Control List and Technical Data Regulations control a broad range of equipment, products, and technology which are not primarily used for the development of actual weapons systems but which can be used as substitutes or in the buildup of military support infrastructure. Items used primarily for the development of weapons systems are controlled by the International Traffic in Arms Regulations administered by the State Department with the support of Defense.

Senator GARN. How worthwhile are third country guarantees against re-export of controlled items? Are there any effective means of verification?

ANSWER. This is a difficult question to answer as the value of such guarantees would depend on the relationship of the importing country with the U.S. and the strength of its national laws for licensing West-East trade. As you know, re-export guarantees for U.S. technology sales to non-communist countries are most often between exporters and importers and not governments. The Reagan Administration is concerned that all exports of items requiring a U.S. Validated License for sale to a proscribed country be put under an IC/DV (Import Certification/Destination Validation) program which would certify imports and validate deliveries to non-communist countries.

Senator GARN. Why is the U.S. Government reluctant to stop the overseas subsidiaries and foreign licensees of U.S. firms in Europe from exporting key components of the gas pipeline, such as turbine blades, to be used on the Siberian gas pipeline?

ANSWER. Our current oil and gas sanctions, the result of the imposition of martial law in Poland in December 1981, have raised the issue of extraterritoriality with regard to G.E. rotors licensed for manufacture to the French firm, Alstrom Atlantique. To the best of our knowledge, there is no indication that these rotors have, so far, been manufactured for export to the Soviet Union for use on the Siberian gas pipeline. Again, to the best of our knowledge, no overseas subsidiaries or foreign licensees of U.S. firms are currently exporting turbine blades to the Soviet Union.

Senator GARN. As more and more products combine technologies, such as the Apple computers, how do we limit access to our enemies? We cannot post a guard at every Radio Shack, or everyone who sells electronic equipment. What I am trying to get at is the technology, which obviously is advancing much, much faster than we can control access to it—should we try to protect the know-how, and perhaps focus less on the actual products? How can we hope to control the export of such products, some of which could have military applications?

ANSWER. You are right, of course, that it is difficult to control small quantities of microchips available at retail stores from illegal export by foreign nationals or even, unwittingly, U.S. citizens. It is also correct to believe that the technology to produce such items is more vital to U.S. and Western security than the products. However, this is not to say that we should therefore remove controls over militarily useful microcircuits and microcomputers such as the Apple computer. Easy access by the Warsaw Pact countries to large production quantities of microcircuits can relieve bottlenecks in indigenous military production. Also, these chips can be stockpiled in the millions and used as replacement parts in a short war scenario. The uncontrolled availability of microcomputers would allow for a rapid upgrading of Warsaw Pact industrial automation, especially in defense priority industries such as specialty steel production. The Defense position is to continue to control the large scale sale of these items while permitting some exports of appropriate numbers to approved end uses and end users. In this way, we can allow a reasonable level of trade to take place consistent with our national security concerns.

Senator GARN. I would just make one comment on what Senator Heinz was just talking about, initiatives from the administration. I may not be able to be here when Larry Brady testifies, so I will make the comment to both of you.

#### ESTABLISHING NEW AGENCY

I have been very dissatisfied with the Export Administration Act for a long time. I was not able to get any satisfaction out of the Carter administration, so I proposed a bill on which hearings were held to take it totally away from the bias of Defense and Commerce and have an Office of Strategic Trade, separately. The only reason that bill has not gone forth is because a little over a year ago, Mr. Brady, and this is not directed at him, personally, but at the administration, that now we had the Reagan administration, my administration, the Republican Administration. Maybe we would have some order and sense in this whole thing.

Senator Heinz and I had fought the Eximbank thing together for a long, long time. The Reagan administration is just as bad on that as the Carter administration. So my hopes had fallen through there. And I told Larry that I would wait a reasonable amount of time before reintroducing my bill to replace the Export Administration Act.

Well, I think that 15 months is more than a reasonable amount of time. So we would appreciate your input, but in the meantime, my bill, within the next week or so, not only the Office of Strategic Trade, but with some other amendments, is going back in again. And I'll seek cosponsors because we're a little bit tired of delays by this administration—after 15 months, I think that that is time to come up with some changes. Again, the frustration of 8 years—it doesn't seem to matter who's in, Republicans or Democrats, nothing happens. The sieve still has big holes in it. The difficulties between Commerce and Defense still go on and stay. The disorganization is still there.

So I'll reserve my questions for you in writing, but, frankly, to put it bluntly, I'm tired of waiting for this administration to do something. I suffered with Carter for 4 years. And in this area, I want to single out, I'm talking about selective disagreement with the Reagan administration on this. [Laughter.]

That their record is no better than the Carter administration. I just wanted to make sure that we didn't confuse it with all sorts of other issues. Just the issue of strategic trade and Eximbank.

So we will hope that you can proceed by early summer, but this Senator isn't going to wait that long.

Dr. IKLE. I believe, Senator, the thrust of your question somewhat underestimates the amount of progress that was made, progress which was made in the spirit of your proposal of the year before last, where, indeed, I would say in part conspired without taking the step of establishing this formal new organization. And I share the feeling that it always so much easier to add it. A government department agency, once added, you can never abolish it again.

So even in the best and most laudable area, there's an understandable reaction about creating new agencies because once an agency is here, you can never get rid of it.

Senator GARN. I don't disagree with that. It's simply action. And as time goes on, I've lost two more inches of hair since this started. [Laughter.]

And I'll be totally bald before we get some action. I'd rather have you do something wrong than just drift on and on and on. [Laughter.]

Dr. IKLE. I think that we have taken action and maybe in follow-up conversation, I would love to go over a list of things that we have done, that we have done in the Defense Department. We have vastly expanded the effort with Dr. Bryen here establishing a whole new office on Technology Transfer, Monitoring and Enforcement. We are working very effectively now with the Commerce Department that, of course, has a leading role in this area. We have almost daily meetings, certainly daily meetings on the staff level and almost daily meetings at various levels. We have a concerted action going, as you know, on the credit side with the mission with Senator Buckley in which I participated on restricting the credits. We have taken the initiative with the Paris meeting in CoCom.

So I think that's a fair list of actions. That is not to say that I do not fully share with you the feeling that more needs to be done, and we want to get more done. We are very open to specific suggestions of yours. Maybe you could separately review that later on, where we should go from here in light of the steps that we have taken.

Senator GARN. My point is that I have no great pride of authorship. I don't particularly care to create a new and separate independent agency. But maybe I should have put the bill in earlier because then it will require everyone to come in and testify and come up with some alternatives.

Don't misunderstand. I fully understand what you're saying about some of the difficulties with my proposed legislation. But I used to have a sign on my desk when I was in the private sector. It said: "Results are the only excuse for activity."

In Washington, after 8 years, there's lots of activity. There's lots of meetings. There's lots of discussions. There's lots of good intentions. But results don't very often happen.

So I'm going to try and produce some results. We'll use my bill as a starting point to come in and argue about it and get people to get out of the meeting stage and come up with some concrete proposals. I don't know who the next administration will be here when we're still trying to get something done. Everybody agrees that



something ought to be done. Eight years ought to be enough time, Fred.

Dr. IKLE. Let me tell you, Senator, that personally, I would very much welcome your continued initiative in this area and as far as it's under our control, we'll be very responsive. If you have alternate proposals, alternate ideas, to discuss, we'll do so. But I would look forward to this interaction. I am assuming it will be very productive in helping us to get more results. We have no disagreement on that objective.

Senator GARN. Thank you. Thank you, Mr. Chairman.

Senator HEINZ. Senator Proxmire.

Senator PROXMIRE. Thank you, Mr. Chairman.

Mr. Chairman, I have a suggestion that I think will get quicker action on Senator Garn's hair problem—I did it—[laughter]—then we can get on this CoCom or the Export Administration Act, unfortunately.

Senator GARN. I don't want to go through the pain and suffering. [Laughter.]

Senator PROXMIRE. Well, in some ways it's more fun. Mr. Ikle—

Senator GARN. I'm sorry but I just can't leave this yet. [Laughter.]

Some of us don't worry about it, anyway. And those of you who look like me in the audience ought to know that God gave every man a certain number of male hormones at birth. And if these hairy ones want to use theirs growing hair, it's all right with me. [Laughter.]

Senator PROXMIRE. You see, I have it both ways. [Laughter.]

#### COCOM PUBLICATION LISTS NOT PUBLISHED

I have in my hand the Export Administration Act. It provides certain objectives, four objectives, to be achieved by the President with respect to coordinating committees. Let's review those objectives and see how you're doing. No. 1 is to reach agreement to publish the list of items controlled for export by agreement of CoCom, together with all notes and understandings.

Now, Mr. Johnston's testimony says that the CoCom lists are not published, are not published. Is the statutory objective valid? And if so, what's wrong? Why aren't we reaching that objective, which is the No. 1 objective as stated in the act?

Dr. BRYEN. The CoCom list itself is not published, but we publish our own control list here, which tracks that very closely. We have some additional things on our own list. But we're publishing.

Senator PROXMIRE. Well, it's not the same list. We're talking about an agreement to publish the list of items controlled for export. The fact that you publish your own list is not in compliance with that objective, as I see it, is it?

Dr. BRYEN. Well, there is no international publication of a list.

Senator PROXMIRE. Why not?

Dr. BRYEN. Each nation publishes its own control list. That's been the traditional way it's done. I've never thought about whether CoCom itself should publish a master list that each nation would use as a special list.



Senator PROXMIRE. Well, wouldn't that help enforcement if everybody knew what was on the list, if it were a multilateral instead of just a unilateral action?

Dr. BRYEN. Yes, that would be the perfect arrangement. But ours is not unilateral, sir. I don't want to give you the impression that our list is unilateral. It's based directly on the CoCom list.

Senator PROXMIRE. Why don't we press for the objective, though, if the objective is stated there?

Dr. IKLE. Senator Proxmire, there's a question of whether that would help in the ultimate result that we all want to achieve. Obviously, there's a question of legal obligation. We have to pay obvious attention to that. But there's also the question of whether the allies would strengthen their controls if the list was published or whether they would fight this all the harder in keeping items off the control because they expect it to be formally published.

And our impression has been that it would more tend in the latter direction and therefore, we have not pressed for a formally agreed CoCom list.

Senator PROXMIRE. Well, then, it sounds like the objective of the statute is not appropriate and we ought to change the law.

Dr. IKLE. That, indeed, might be the implication, right.

Senator PROXMIRE. All right, then the second objective is to reach agreement to hold periodic meetings with high-level Government officials for the purpose of discussing export policy controls issues and issuing policy guidance to CoCom.

Now as you have testified this morning, we had no such meetings between the 1950s and this ministerial meeting held, I guess, last January; is that right?

Dr. IKLE. Right.

Senator PROXMIRE. That's a long period.

Dr. IKLE. Indeed, much too long a gap and I think that one agreement that we reached is to have meetings more frequently. So there we can be in compliance with this provision, I would hope.

Senator PROXMIRE. At any rate, it's been a long time between meetings. We have had exactly one in, what, 20 years. Objective three: Reach agreement to reduce the scope of export controls imposed by agreement of CoCom to a level acceptable and enforceable by all Government participating committees.

I wonder if it's a valid objective to reduce the scope of export control to the lower common denominator level. It seems to me that that objective tilts too much in favor of the export at the expense of valid national security considerations, does it not?

Dr. IKLE. That's correct. It very much reflects the pressure that we, in a sense, have to battle against in our CoCom meetings. Our allied friends tell us that they want to reduce the list. They want to keep it down. The concerns about affecting trade obviously enter here. It's in a way an opposite objective of having an adequate list that takes care of the dangers of technology transfers.

#### ENFORCING CONTROLS

Senator PROXMIRE. And then, finally, objective four, the last objective, is to reach agreement on more effective procedures for enforcing controls agreed to by CoCom.

Now in the brilliant presentation by Senator Armstrong—I thought that it was very impressive—and in Mr. Johnston's testimony, he says that the Soviet Union has obtained equipment and technology of strategic and military importance from the West, either through violations of controls or because some such items are not presently controlled.

So we seem to be flunking on that fourth objection.

Dr. IKLE. On this issue, the response was strong and favorable from our allies at the CoCom meeting that once they agree that something is prohibited and should not be exported, they, indeed, want, as any reasonable government should, to enforce that prohibition. We do have extensive contacts with our allies to advance that enforcement.

So while there's a lot to be done——

Senator PROXMIRE. Anything could be done. It just seems to me that we haven't done—you say that they agree in general, as a matter of generality, to try to get control and so forth, but that we don't have it.

Dr. IKLE. No, there's more than that. The enforcement, the people in the enforcement field are exchanging information, are working together so that they can track the violations and can stop them. We've got commitments to improve the enforcement, to enlarge the enforcement effort.

Senator PROXMIRE. Well, for the record, can you make a more detailed response to indicate, to document as well as you can how you have improved the enforcement effort?

Dr. IKLE. We will be pleased to do that.

Senator PROXMIRE. I'd appreciate that.

[The following information was received from the Department of Defense:]

Senator PROXMIRE. What improvements domestically and especially internationally have been made in enforcement?

Answer. As you know, the Defense Department does not have a statutory responsibility for enforcement of the export control system. This is the responsibility of the Departments of Commerce and State with assistance of Customs and the Justice Department. However, Defense has a strong interest in working with these agencies to assist in the development of programs to strengthen enforcement over controlled technologies. For example, we are working with the Customs Service to develop a "mushroom" book of critical identifiers of high technology to assist Customs inspectors identify questionable shipments before leaving the U.S. Should this work well, it could be offered to the Customs Services of our allies for their use as well. In addition, we are working with our Allies to strengthen the enforcement of CoCom controls through information sharing and the harmonizations of licensing practices and procedures. When in place, these improvements are expected to help considerably to plug current loopholes which make too easy illegal transfer of strategic controlled technologies.

Senator PROXMIRE. Now you make a hard-hitting statement against credits to the Soviet Union. You say that it underwrites the Soviet war machine. And as you can tell from the statements of the committee, we agree with you.

Now this is why I felt that we should declare Poland in default, which the administration objected to. The problem that I see with your statement is that it seems to lead nowhere. It seems to seek an end to détente with no hard, specific action to move the Soviet Union toward compliance with the Helsinki Accords.

You have an excellent statement on the advantage that the Trans-Siberian pipeline gives to the Soviet Union and the disadvantage it gives to the NATO allies, but no action to bring our NATO allies into opposition to the Trans-Siberian pipeline.

So it seems to me that you've got commendable rhetoric, but no specific program to achieve where the rhetoric would lead.

Dr. IKLE. We do have the effort that you know about of the so-called Buckley mission, the group of officials which I participated in. We started negotiations with our allies to establish a system that would move us away from the Government-insured or Government-subsidized credits. I think we will make progress. It's, of course, a matter of convincing the allies to make these changes. It's not the United States that is making such loans.

On the question of default, the possibility of default very much hangs over the Polish loans, potentially the Romanian loans, and others. At the present time, the threat of default is almost a more potent instrument than the *de jure* default. However, the informed banking groups expect that there may well be a *de jure* default later this year.

The important thing that we have to focus on is the rescheduling of the 1982 Polish loans and the positions we take as that issue moves forward through the year.

Senator PROXMIRE. The fact is that in spite of the most severe kind of provocation, we did not cut off Poland. Wouldn't we be in a better position if we cut off credits paid to the Soviet Union and its Warsaw Pact allies, unless they adhere to the provisions of the Helsinki Final Act of 1975, which they all signed?

Dr. IKLE. Well, we did get allied agreement for a certain level of common sanctions after marshal law was imposed in Poland. And we are giving, as you know, no new credits to Poland. I do not expect that we would.

Senator PROXMIRE. Well, my time is up, unfortunately. Thank you, Mr. Chairman.

Senator HEINZ. Senator Armstrong?

#### EXPORTS OF MILITARY TECHNOLOGY TO THE SOVIETS

Senator ARMSTRONG. Thank you, Mr. Chairman. Mr. Secretary, thank you for a very thought-provoking and interesting statement. It's pretty clear from your statement that you share the concerns of the committee about the strategic implications of the technology which we have exported to the Soviet Union.

I don't want to ask you to testify to more than you wish to, but would you say that that has been a marginal contribution to the Soviet war effort or a very significant contribution or a crucial contribution? In other words, are we swatting at gnats here or is it really an important part of the Soviet capability that they've gained from us?

Dr. IKLE. We would estimate that it was a significant contribution in two ways that I touched on. One in that it directly enables the Soviets to advance, particularly advances military technology. And second, it saves money for them. It makes it easier for them to have such a continued high effort on defense spending that they have been maintaining for now almost 20 years.



Senator ARMSTRONG. By the same token, is it a fact, in your opinion, at least, that part of the U.S. defense expenditure is required to meet the threat posed by weapons which we have made available to them in part or in whole through the technology that we are financing?

Dr. IKLE. Indeed. The pace of our modernization program, the quantities of weapons we have to produce, has increased because of the advances in Soviet weaponry, which are, in part, the result of these transfers.

Senator ARMSTRONG. Has the Defense Department ever attempted to quantify that? Have they ever said, we could spend X-less dollars in fiscal 1983 or 1984 or 1985 had we not, during the 1970's transferred all of this technology and know-how and loan credits to the Soviet Union?

Dr. IKLE. We have recently tried to make some quantification of this kind and I'll let Dr. Bryen tell you a little more about it.

Dr. BRYEN. Yes. The problem is that the numbers we keep coming up with are so large, that we keep going back to the analysis and saying, is something wrong here? In one area alone, in communications switching, we try to estimate the cost to us if we had to figure out new systems and replace systems across the board, and it kept coming out in the tens of billions of dollars.

Senator ARMSTRONG. In the tens of billions of dollars?

Dr. BRYEN. That's right, because you—

Senator ARMSTRONG. In communications switching alone?

Dr. BRYEN. Well, because it's so pervasive in all of our various programs. We've said that something has to be wrong with these figures. Let's go back and try again. And we're still trying. It can go very, very high. If you take, for example, the ball bearing grinder transfer which was, as you know, a legal transfer, and you then estimate that that improves Soviet missile accuracy, and then you figure out what you have to pay to protect your missiles, it's a staggering cost.

Senator ARMSTRONG. Does the effort to quantify this go on? In other words, could we expect at some point in time to have some ballpark estimates of the numbers?

Dr. BRYEN. Yes. We're trying very hard. I feel that the initial efforts were not entirely satisfactory because, as I said, the numbers seemed huge. And we're back at it again. If you take just the transfer of microelectronic capability, I brought along a Soviet circuit board out of a piece of military hardware. These are, of course, American circuits that have been copied. The circuit board has been copied. Dr. Ikle spoke to this in his testimony a bit. These things appear in virtually every piece of our military hardware. And how you compute the loss rate is a complicated matter, but you can certainly determine that it's very extensive.

Senator ARMSTRONG. But it is your testimony that while you can't pin down the exact dollar figure, that we're talking about added expenditures by the United States in the range of billions of dollars.

Dr. BRYEN. That's correct.

Senator ARMSTRONG. Whether it's tens of billions or scores of billions or how much it is, we don't know, but it's a large amount that would not have otherwise perhaps been necessary to spend.



Dr. BRYEN. That's right.

Senator ARMSTRONG. Mr. Secretary, you mentioned—in fact, I believe the exact term you used was “inadequate controls”—to describe the way in which the United States supervised the export of technology during the 1970's, inadequate controls.

Then a moment ago, it was pointed out, as Senator Garn did earlier, that the grinders were sent to the Soviet Union in 1972, after having been denied for 11 years. What this brings into focus, it seems to me, is that perhaps we need a more fundamental policy decision which would not be subject to pressures on the executive branch.

It's obvious, of course, that Presidents come and go, Defense Secretaries come and go, Commerce Secretaries come and go. And if we had a policy which was spelled out in greater detail, thereby restricting the discretion of the executive branch officials, would we perhaps be better off?

And I raise that question also in light of your testimony that some of these controls were lifted to accommodate what you described as commercial pressures. Now this is getting to be a longer question than I wanted, but what I'm getting at is this: Have we set up a situation in which the hard-pressed, responsible officials are constantly harangued and harassed by commercial interests to come in and lift the controls and maybe they would be better off with less discretion?

Dr. IKLE. Let me respond with two points. One, of course, technologies change, too. So for that reason you have to make changes. Second, as to the role between our two coequal branches of government, I assume you are not implying that the pressures would necessarily be more balanced if there was a greater congressional role, because I'm sure that you're aware, directly and indirectly, that some of these pressures to let technology be exported that should not be exported because of its strategic role, some of these pressures impact on the executive branch through the Congress. It's pressures from the constituents, corporations that want to get a certain contract and therefore, exert pressure by the Congress on the executive branch to lift the controls.

Senator ARMSTRONG. That may be a subject that we ought to go into in greater depth. My own feeling, we're trying to get the fact out on the table and then I share the sense that others have expressed that we need to have your recommendations and we need to get on with it promptly.

My own instinctive disposition is that we ought to be more specific in the law as we direct what the policy ought to be, that there's too much discretion and that it's unhealthy, although I certainly recognize what you have just said.

#### POLISH LOAN CREDITS

Let me come back to the question of the Polish loan credits. If we pull the plug on the Polish loan, what's the effect going to be on the pipeline? Is it a fair supposition that if the Soviet Union suddenly finds itself in the position of having to shore up these East European economies and to take the responsibility for these loans

or let them go down the drain, that this would divert the resources that they might otherwise put into the pipeline?

Dr. IKLE. It should not be expected that the Soviet Union would step in to prevent default of the Polish loan. It was an expectation of the bankers, both in Europe and in this country, that under the so-called umbrella theory, the Soviets would be the ultimate guarantor of these loans.

It's an extraordinary assumption made by all of the large banks, even though there was not a shred of evidence or piece of paper supporting it. And that question itself was an interesting one that one should look into as to why bankers made that kind of a decision without any evidence supporting it.

But now it's recognized that the umbrella doesn't work, that the Soviets are not going to stand behind these loans of Romania or Poland. And hence, it's not clear whether default, *de jure* default as distinct from the present situation with no new lending, would make a difference on the pipeline.

Senator HEINZ. Would the Senator yield, not at his expense for time?

Senator ARMSTRONG. Certainly.

Senator HEINZ. Mr. Ikle, I don't understand that statement one minute. What you say just absolutely flies in the face of everything that this committee has heard. Namely this: That over the next 3 years the Polish government will need, in addition to what's already been loaned, some \$25 billion, round numbers, an additional \$15 billion from sources other than the Soviet Union.

Now if, in fact, a default didn't get any of the loans repaid, one consequence of it, however, would certainly be to insure that no future loans were made. Now where on Earth do you think that the \$15 billion in additional credit will come from for the Polish economy if it didn't come from the Soviet Union?

Dr. IKLE. It is my assumption, and maybe I am too rational here, that there will be no new lending to Poland in any event, with or without the legal default. Now you're right, that if it requires a legal default to prevent new lending, I mean, assuming present circumstances—

Senator HEINZ. Well, new lending is taking place even as we sit here because what is happening is that the terms of those loans are being renegotiated and that, in effect, amounts to new lending. How can we be so naive?

Dr. IKLE. Well, you're right there in that sense, that this increase—

Senator HEINZ. When a loan is extended from 1 year to 5 years, that's new lending.

Dr. IKLE. The alternative to default, of course, would not produce all—it would accelerate the repayment. That's what default is about. But it would not produce the moneys out of Poland. It would then, in a sense, create an impasse.

Senator HEINZ. Mr. Ikle, I urge you to go and study this issue more carefully. I urge you because the fact of the matter is that there is no agreement that I know of not to lend more money to Poland. There is certainly no agreement not to do what amounts to the same thing; namely to extend the terms of these loans. And if you believe for 1 minute that the extension of credit to the Warsaw

Pact is a security risk, it seems to me that you should have a very firm point of view as to whether or not default, in fact, should be a requirement before Commodity Credit or somebody like that steps in to bail out U.S. exporters.

I have taken Senator Armstrong's time and I apologize to him, but I thank you both.

Senator ARMSTRONG. Mr. Chairman—

Dr. IKLE. No; I don't think that we have a disagreement here, Senator Heinz. I mentioned earlier that the problem that we have to focus on is the possibility of rescheduling the 1982 loans and that now we shouldn't, given the present circumstances in Poland, move to such a rescheduling.

So I don't think that we disagree, actually.

Senator ARMSTRONG. Mr. Chairman, I know we're running behind and my time has expired. If I could impose for just a very brief time on the schedule, I'd like to ask one additional question.

Aside from the merits of whether we ought to pull the plug on that Polish loan, if it were the determination that we wished to do so—I beg your pardon. You've got me focused back on the Polish loan. I want to talk about the pipeline.

If we wanted to pull the plug on the pipeline, what action could the United States take that would have that effect? How could we cause that to happen?

#### EFFECT OF PULLING THE PLUG

Dr. IKLE. Well, there are some actions and it's not clear that all will accomplish the result in its totality, but they may go some way toward shrinking the magnitude of the pipeline. One is that there are certain items that through export controls, we could continue to prevent from being shipped for the pipeline construction, as well as later on for its maintenance. There are likely to be major maintenance problems for which U.S. technology will be desired. Presently, as you know, there are American technology type compressors that factor into the pipeline. If these do not become available, the construction at least would be delayed.

Second, and we have worked on that—we made a special effort through a research project—the realization that alternative sources of natural gas within the territory of the Atlantic Alliance, are really more available, more economically available, and larger than has been thought, and that therefore, it would be the wise and prudent thing to do on economic grounds alone for the allies, for the European allies, to move rapidly ahead with these Western sources and to shrink or to postpone indefinitely or whatever, the Siberian sources.

Senator ARMSTRONG. Does the administration plan to pursue these two possibilities?

Dr. IKLE. Indeed. We have an active program. We have a program of making available to energy companies and to allied governments the information that we collected, to exchange ideas. We have conferences planned where the Atlantic, the North Sea sources of natural gas will be developed and promoted.

Senator ARMSTRONG. To the end of heading off the construction of the pipeline?

Dr. IKLE. To the end of making clear to the promoters of the pipeline that they may be embarked on a project that is not really economically justifiable, by then, hopefully, have clear to them that the economic forces favoring the pipeline are shrinking.

Senator ARMSTRONG. But that was your second point. Your first point was that we could just cut off the export of certain items of technology which are important in the construction and maintenance of the pipeline.

Dr. IKLE. There are certain possibilities for maintaining, continuously maintaining export restrictions on these items. However, there are also possibilities for substitution and that non-U.S.-manufactured items could over time be substituted.

Senator ARMSTRONG. Right. I understand that. But that is at least a possible alternative, if it were the policy determination of the U.S. Government that we did not want to assist in the construction of that pipeline. One way to put a stop to it, or at least slow it down or shrink its size, would be to cut off the technology that we're talking about.

Dr. IKLE. Well, one way of doing it would be to continue to maintain the cut-off that has been imposed, the inhibitions that have been already imposed on the technological assistance to the project.

Senator ARMSTRONG. Thank you very much. Thank you, Mr. Chairman.

Senator HEINZ. Mr. Secretary——

Senator ARMSTRONG. I may want to come back to that question perhaps privately, and maybe in the very near future. It seems to me that that issue is very timely.

Senator HEINZ. Mr. Secretary, thank you for your time. We appreciate your being here. And we look forward to your specific recommendations for legislation.

Dr. IKLE. Thank you, Mr. Chairman.

[Defense Department's answers to additional written questions follow:]



## DEFENSE QUESTIONS

Senator Heinz:

1. The Japanese have been accused of dumping the 64K ram microchip on our market. An investigation of this charge is underway at Commerce. Assuming, for the sake of argument, that this charge can be proven, and assuming that a number of small, high technology firms go out of business as a result of the dumping, what effect would this have on our defense industrial base?

Answer: There is no simple answer to this question. If the small firms involved in such an assumption made only 64K ram chips, the effect would be negligible since 64K ram chips are not currently used in military applications. If however, these firms were engaged in research and development for the application of more highly advanced or specialized chips or doing advanced work under government contract for use in military weapons systems, there might be some impact. It would depend on the nature of the work, what was involved and whether other technically competent sources were available.

2. Would DoD have a particular concern in this area?

Answer: Yes, any potential loss or erosion of the defense industrial base would be of concern. Each case would have to be examined carefully. This whole question should be looked at in more detail with consideration being given to relations with our allies.

3. Is it wise to become dependent on foreign sourcing for major components of our weapons systems?

Answer: Our basic objective is not to become sole-source dependent on any foreign producers for any critical elements of our weapons systems. A basic capability to produce such items must be maintained. Where U. S. defense contractors may utilize foreign components, we require adequate spare parts or support items to last in case of a national emergency until our own industry capability could be reinstituted.

4. Particularly since the Japanese have been able to devote large amounts of credit and R&D money to the civilian high technology sector, as a result of a free ride they get from the U. S. defense umbrella by some estimates about \$70 billion per year, is it not in our interest to see that they do not undermine our high technology base through unfair trade practices?

Answer: It certainly is. It has been our contention in meetings and discussions with United States Trade Representative (USTR) that because the high technology issue is so broad, we should implement a work program that will give us the information needed to develop a coherent and comprehensive national policy and implementing strategy. These problems need to be addressed in greater depth at the top policy levels of the Federal government and until such a national policy is developed, we should define our objectives carefully in any bilateral discussions with the Japanese. Discussions on high technology should be thoroughly prepared. When we have the necessary facts we'll be better able to proceed to specifics in our trade talks. Needless to say, where alleged unfair acts require appropriate action, Federal statutes for antidumping, countervailing duty and other unfair trade practices should be enforced.

5. The Japanese, and some other Western nations, seem to view high technology industrial espionage as a trade problem not a security problem. Does this attitude give you concern?

Answer: Yes it does, because of the long range impact on the U. S. industrial base. It is understandable the Japanese may view high technology espionage as a trade problem and not as a security problem because much of the information and expertise they have acquired has been through overt means such as licensing agreements, joint ventures and offshore operations established by U. S. firms. Through these arrangements and the effective use of host country leverage, the Japanese have been able to acquire considerable technology and effectively utilize it through application of their strict quality controls and economy of scale production techniques which have enabled them to compete in our markets on the basis of quality and price.

6. What controls are in place to limit the transfer of technical data and manufacturing know-how to non-Communist countries such as Iraq, Pakistan, or Algeria? Do you have any plans to license such technical data?

Answer: Currently there are only foreign policy controls on Iraq for the export of commodities and technical data subject to control for national security purposes if the proposed export is valued at \$7 million or more and is destined for a military end-user or a military end-use. Products and equipment controlled for national security reasons require a U. S. validated license for export to Pakistan.

and Algeria. The Defense Department is seldom sent such cases by the Commerce Department for a national security review. There are only nominal controls over the sale of technical data to either of these two countries. The Defense Department currently has no cases under review for Iraq, Pakistan, or Algeria. However, the Commerce Department may have license applications pending for these countries.

7. An intelligence community report of April 1982 concludes that, "Soviet assurances that legally purchased dual-use technology will be used solely for civilian applications can seldom be accepted at face value." Would you agree with that statement? Why or why not? What implications does that have for policy?

Answer: It has never been the policy of the Defense Department to accept end-user assurances regarding the civil application of dual use technology at "face value." Despite assurances, if we have reasonable evidence that the end-user produces military items which the product sought for export could help produce, we would probably recommend denial of this sale because of concern over diversion to a military application. In most cases, however, end-user assurances are just one factor, and among the least important, in deciding the national security risk of a particular export. The major use of end user assurances is that should there be evidence of diversion after export of a product to any unauthorized end use, military or not, under U. S. export regulations the firm involved can be denied spare parts for the diverted equipment and denial of future sales. If no assurances were given, then the question of diversion would be less clear. I would call to your attention the testimony given by the Commerce Department in February 1980 regarding diversion of Kama River trucks to military uses in Afghanistan and Eastern Europe. There was a legal argument put forward that no diversion had taken place because the letter of assurance from the Kama officials did not specifically state the trucks would be used only for civil purposes.

8. Access to foreign exchange is a particularly important factor in Soviet access to Western technology. To what extent might control of foreign exchange, particularly the control of Western credits, contribute to our ability to control the flow of technology to the Soviet Bloc?

Answer: Soviet hard currency earnings are essential to the legal and illegal acquisition of sophisticated Western technology used to shore up the Soviet military industrial complex. Without the current rate of hard currency earnings, the Soviets would have to drastically increase R&D expenditures in order to continue their massive military buildup. At present, the Soviets have maintained a steady increase in their military spending over the last two decades, despite a slowdown in the growth of their overall economy. They have used hard currency earnings to acquire sophisticated Western technology with military applications that would be too expensive and time consuming for them to develop at home.



## DEFENSE QUESTIONS

Senator Armstrong:

1. Can you provide a quantification ("ball park estimate") of costs to the U. S. of technology transfers (and credits) to USSR?

Answer: No single meaningful "ball park estimate" currently exists for the total costs to the U. S. of technology transfer in general (or credits) to the USSR. That cost consists of both military consequences for the U. S. of strengthening Soviet weapon systems and military production capabilities, and in the cost to the U. S. taxpayer to overcome vulnerabilities that those compromises entail. The Soviet Union has saved billions of dollars and untold years of research by acquiring proven Western technology. It has, thereby, avoided costly and time-consuming mistakes and errors. Credits extended to the Soviet Union may be invested in capital projects, such as natural gas exports, which when completed may generate several billion dollars annually in hard currency revenue. A significant part of these revenues would go to strengthening the Soviet military and pay for imports of Western technology, much of which will support the modernization of the Soviet military-industrial establishment.

2. Is there available a comprehensive list of technology transferred to USSR and reasons why it "got away from the US?"

Answer: The Defense Department maintains no comprehensive list of approved exports to the USSR. Current files of export cases reviewed by the Defense Department extend back several years but are listed by Commerce assigned case numbers and not by country of export. This is a fault that the Defense Department expects to correct through a new export control automated system which will permit access to cases by country of export and several other identifiers. There are, however, some well-known examples of technology transfers to the USSR such as the Bryant Grinders and computers for the Kama River Truck Plant foundry. In each instance, these technologies were exported only after a full technical and policy review by the responsible executive agencies. It is highly unlikely that these exports would be approved today.

Senator HEINZ. Our next witness is Larry Brady. I think Larry Brady probably should be grateful to the committee for having arranged for Mr. Ikle to go first. We asked him all the tough questions. [Laughter.]

Larry, we welcome you to these proceedings.

**STATEMENT OF LAWRENCE BRADY, ASSISTANT SECRETARY FOR  
TRADE ADMINISTRATION, DEPARTMENT OF COMMERCE**

Mr. BRADY. Thank you, Mr. Chairman. I really am honored and pleased to be here to discuss this subject. I have a fairly lengthy statement that I would ask be inserted in the record.

Senator HEINZ. Without objection, so ordered.

Mr. BRADY. What I would like to do is to summarize it briefly. Before I do that, I'd also like to compliment you, Mr. Chairman, Senator Armstrong, and other members of the committee, for the statements that were made this morning because notwithstanding what appears on the surface to be perhaps disagreements between the committee and the Administration, I think that our objectives are very, very similar. There are difficulties in implementing the objectives which we mutually share. And that is basically, I think, what we're experiencing.

But, as you know, during the course of the campaign in the Republican platform, the President had promised to take certain actions with regard to this subject matter. He carried through in Ottawa the only subject that was purely noneconomic that was raised—the subject of East-West trade. Through the Fall, we had a number of bilateral meetings with our allies, culminating in January in the first high level meeting with the CoCom allies.

So I do think that we have carried through on the President's promise. We took office, this Administration took office, with a clear determination to protect vital U.S.-and free-world interest in the management of our commercial relationships with Communist countries. We have placed the highest priority on the need to establish consistent and effective policies that take into account the security, foreign policy, and economic conditions of today.

**GROWING SOVIET POWER**

One of those conditions is the reality of growing Soviet power. Over the past 10 years the U.S.S.R. has made Herculean efforts to achieve superiority over the United States and its allies in conventional and nuclear arms. Soviet leaders have taken advantage of numerous opportunities to challenge free-world interest in Southeast Asia, Africa, and Central America. They have harnessed the resources not only of their satellite nations in this adventurism, but of the industrialized West as well.

During the so-called decade of détente, the U.S.S.R. was able to substantially refurbish its military infrastructure with capital and technology imported from its potential adversaries. Western designed and equipped factories now turn out trucks, armored personnel carriers and rocket launchers.

U.S.-origin grinders, as was pointed out by Senator Armstrong, produce components for the guidance systems of Soviet intercontinental ballistic missiles. And today, with bloc economies facing se-

rious economic difficulties, the U.S.S.R. is once again turning to the West to seek crucial support for its energy industry.

The free world has been far too generous with its technological investment aid to the Warsaw Pact. Our resources allow the Soviets to vie for the position of No. 1 power in the world, despite the clear failure of their system. Once its economic constraints were eased by the West in the 1970's, the U.S.S.R. launched a fierce wave of aggression, either directly or through proxies, against non-allied nations, such as Ethiopia, Angola, and Afghanistan.

Contrary to the assertion of the 1970's that increases in East-West trade would lessen political conflict and diminish Soviet emphasis on military power, quite the opposite has happened. As Soviet power grows, political repression seems to intensify.

This administration is growing increasingly skeptical about the wisdom of further integrating the Soviet bloc nations into the world trading system. We recognize that Communist nations share neither our basic democratic values, nor our commitment to free market principles. There is no evidence that the U.S.S.R. has modified its goal of a socialist global economy.

On the other hand, considerable proof exists that economic interdependence between the East and the West poses a mounting threat to free world security and economic interest.

#### EAST-WEST TRADE POLICY REVIEW

For these reasons, late last spring the administration began a policy review of the major issues relating to East-West trade. Issues included in the review were: First, the national security controls of the Soviet Union; second, foreign policy controls on oil and gas equipment to the Soviet Union; third, proposed construction of the 3,000-mile natural gas pipeline from Siberia to Western Europe; four, export control policy toward East European countries; and five, export control policy toward the People's Republic of China.

I would like to share with you some of the progress we have made.

One of our most important achievements to date is an initiative to significantly improve the multilateral system of strategic trade controls that restricts the flow of sophisticated Western technology that could contribute directly or indirectly to the improvement of Soviet military capabilities. As I indicated, President Reagan at the Ottawa summit in July made a personal appeal to the leaders of Europe, Canada, and Japan to join with us in this endeavor. As a result, an agreement was reached to hold a high level meeting, CoCom, to discuss the U.S. proposals. This meeting took place in January and there were important understandings reached with our CoCom partners. We now have a political commitment from our allies which provides the foundation for refocusing and strengthening international controls over critical technologies and equipment. We also look toward clarifying CoCom's rules and procedures. Achievement of a more coordinated and aggressive approach to international enforcement activities is another major objective.

We intend to redirect our controls to cover sophisticated technologies and keystone equipment vital to nine defense priority indus-

tries in the U.S.S.R. Congress endorsed the broad approach in 1979 when it mandated the Departments of Defense and Commerce to jointly draft the military critical technologies list. The overall intent of the Export Administration Act and the MCTL is to increase controls on advanced technology while reducing restrictions on end products.

We're also taking actions to substantially improve our system for preventing Soviet illegal acquisitions of embargoed technology. The functions of the compliance office at Commerce are being strengthened. Two offices on the west coast will soon be opened and additional staff will be brought on board.

Although the administration wants to tighten up on high technology and critical or keystone equipment, exports to the Soviet Union and its allies, we do not wish to cut off all trade. While there is serious concern over exporting critical materials, equipment and technologies the Soviets need to carry out their ambitious military expansion plans, we do not have the same concerns with regard to finished products, low-level, industrial equipment and agricultural consumables. Where we feel trade is in the best interests of the United States and poses no threat to national interest and security, we want to see it continued.

Despite our attempts to effect political results through trade concessions, discussion of United States-Soviet trade since 1981 would be meaningless without mentioning recent events in Poland. Through their actions in that country, Soviet officials have demonstrated unwillingness to abide by the basic agreements signed at Helsinki to protect peace, security, and human rights in Europe. The President, on December 29, imposed a range of economic and political sanctions against both the U.S.S.R. and Poland. These sanctions include the extension of foreign policy controls over equipment needed by the U.S.S.R. to accelerate development of its energy industry. We earnestly hope that martial law will soon be lifted in Poland so that East-West relations can improve. We would like to emphasize, however, that while it is our goal to reduce the use of foreign policy trade controls, we are not prepared to forgo the use of these controls as part of our response to future Soviet aggression.

#### SIBERIAN PIPELINE ASSISTANCE

Recognizing the dangers of trade dependency, the administration seeks to limit Soviet leverage over the economies of Western Europe and the rest of the free world. The U.S.S.R. now hopes to greatly increase European reliance on its markets and energy resources. The centerpiece of this strategy, of course, is the Soviet Union's proposal to construct with considerable Western financial and engineering assistance a 3,000-mile pipeline linking Siberia's Uzhgorod natural gasfields with the energy distribution network of Western Europe.

The Siberian pipeline represents the largest single East-West trade deal in history and would lead to a quantum jump in West European-Soviet economic integration. But I would be less than candid if I did not express our serious reservations about the long-term implications of this project. If the Soviet Union uses its



energy exports to blackmail Europe or to obtain political influence elsewhere, U.S. interests would be directly threatened. We also believe that the West could best improve its energy security prospects by investing the billions of dollars destined for the pipeline in the development of its own energy reserves, thereby creating jobs and capital income within the alliance rather than in the Soviet bloc.

Construction of the pipeline has raised in a very direct way the question of credits to the Soviet Union. The administration seeks to control the availability and increase the cost of new credits to the U.S.S.R. In the past, the Soviet Union and its East European client states have been able to borrow billions of dollars from Western banks at below market rates. Some of our allies provide government subsidies and guarantees for such loans. Once the pipeline is completed, we may find it more difficult to convince our allies to cooperate in efforts to limit the amounts of new credits and sales of high technology to the Soviet Union.

By the late 1980's, the U.S.S.R. may be able to use its position as a supplier of Western Europe's energy to bargain for a liberalization of Western trade practices. The effectiveness of credit restriction policies, as well as the CoCom system, could be put to a severe test. Regardless of the pipeline, we believe that the question of Western credits demands close attention and detailed analyses; in short, I believe credits are basically an economic problem which requires an economic response.

In addition to our actions on the pipeline, we have been reviewing our trade policies towards Eastern Europe. This administration considers it in our best interest to try to differentiate between some of the East European nations and the Soviet Union. We're now determining which of these countries should be treated more liberally than the U.S.S.R. The critical factor to evaluate in this exercise is the extent to which these nations can divert Western technology and equipment to the U.S.S.R. The administration is moving ahead to normalize our trade ties with the People's Republic of China. In July 1981, the President announced a more liberal export control policy with respect to the People's Republic of China consistent with our mutual security and economic interest. This policy allows the export of technology with twice the sophistication previously approved. Sales above the permitted performance capability levels are reviewed on a case-by-case basis.

In conclusion, this administration has great respect for both the political and the economic importance of trade between the free world and the Communist nations. We're sincerely attempting to minimize the advantages of export controls to the business community, while advancing our national security and foreign policy objectives. The Communist nations must recognize, however, that the extent of our nonstrategic trade with them will depend on their adherence to accepted international practices.

Moreover, to quote President Reagan, "The Soviet Union must realize that we will not conduct business as usual while repression in Poland continues."

Thank you, Mr. Chairman.

Senator HEINZ. Thank you, Larry. I have a large number of somewhat detailed questions. I'm going to ask you to respond to them in writing. They have to do with statistics that you may or

may not have with you. But we do need to evaluate the enforcement of the Export Administration Act.

Mr. BRADY. I'll be glad to do so.

[Complete statement of Mr. Brady and additional material received for the record follows:]

STATEMENT OF LAWRENCE J. BRADY  
ASSISTANT SECRETARY FOR TRADE ADMINISTRATION  
U.S. DEPARTMENT OF COMMERCE  
BEFORE  
SENATE SUBCOMMITTEE  
ON INTERNATIONAL FINANCE AND MONETARY AFFAIRS  
WASHINGTON D.C.  
APRIL 14, 1982

It is a pleasure for me to have this opportunity to testify before this Subcommittee. I am especially pleased to be here for a mutual exchange of views on a topic that I believe is one of the most important issues facing the Administration. Only now are we beginning to understand, as a nation, the extent of technology transfers from the West to the Soviet Union during the past decade and the contributions such transfers have made to strengthening the Soviet military-industrial base.

The Soviet Union through both legal and illegal means, and using a variety of transfer mechanisms has been bleeding us of high technology in recent years. Their efforts began in earnest in the early part of the 1970's -- about when Detente started -- and continue today. By relying on proven Western technology the Soviets save billions in R & D costs alone. By skimming the results of our efforts -- the results of much sacrifice by American taxpayers, the Soviets are hurting us. The real effect on the U.S. -- in economic cost terms -- is the ever rising defense expenditures required to keep ahead of advances they make because of what they buy or steal.

The United States leads in many technological areas where the Soviet Union has real interests, from a military applications basis. Thus, while the U.S. lead is not absolute in all technologies, the United States has been and remains the main target of Soviet technology acquisition efforts. Allied nations, however, are also watched closely.

The responsibility of the Commerce Department is to protect our industrial secrets by controlling the transfer to potential adversaries of "dual-use" equipment and technology which has civilian as well as military applications.

Under the authority of the Export Administration Act of 1979 (EAA), the Office of Export Administration (OEA) of the Department of Commerce exercises control over exports of goods and technology in order to:

- o protect the U.S. national security;
- o further the foreign policy objectives of the United States; and

- o protect the domestic economy from excessive drain of scarce materials and reduce the inflationary impact of foreign demand.

I would like to point out that only a small portion, less than five percent, of U.S. exports require the issuance of a validated license by OEA.

The fundamental policy question in administering export controls, however, is how to strike an appropriate balance between protecting the nation's legitimate security interests while pursuing the nation's legitimate commercial trade interests. Unfortunately, these interests are sometimes difficult to reconcile. Some of the difficulty inherent in balancing these varied interests is due to differences in perspective. Those with primary commercial interests don't always fully appreciate the longer-term, adverse consequences to our national security of exporting critical technologies or sophisticated products. Those responsible for ensuring our nation's security, on the other hand, are sometimes overzealous in suggesting prohibitions against commercial and scientific exchanges with communist countries. Perspectives can also differ widely among nations.

The Administration's goal is to strike a balance between these sometimes conflicting aims, a balance cognizant of commercial trade interests, yet mindful of security objectives.

Of major concern at the present time is the issue of technology transfer in East-West trade. This Administration took office with the clear determination to protect vital U.S. and Free World interests in the management of our commercial relations with communist nations. We have placed highest priority on the need to establish a consistent and predictable policy which will take into account the security, foreign policy, and economic conditions which exist today.

Over the past decade, the U.S. actively promoted trade with the Warsaw Pact nations, especially the Soviet Union, on the assumption that increased trade would encourage them to moderate their behavior, both internationally and domestically. However, rather than a lessening of political repression in the Soviet Bloc, we witnessed an intensification. This is more than amply demonstrated by the recent events in Poland. In the international arena, the continued occupation of Afghanistan, as well as Soviet sponsored adventurism elsewhere, makes it clear the U.S.S.R. and its allies are embarked upon a drive toward global hegemony.

Therefore, in reviewing East-West trade policy, this Administration took serious note of the U.S.S.R.'s aggressive policies, as well as the fact that the tendency towards increased economic interdependence with the communist world has created some dangerous vulnerabilities for the West. Specifically, capital,



technology, and equipment imported from the West during the last ten years have contributed substantially to the modernization of many industries which make up the Soviet military industrial base.

In this area, one of the Administration's most important achievements to date is the initiative to significantly improve the multilateral system of strategic trade controls. This system regulates the flow of sophisticated Western technology which could contribute, directly or indirectly, to the improvement of Soviet military capabilities.

President Reagan, at the Ottawa Summit in July 1981, made a personal appeal to the leaders of Europe, Canada, and Japan to join with us in this endeavor. As a result, agreement was reached to hold a high level meeting of COCOM -- the first in more than twenty-five years -- to discuss U.S. proposals for revamping the system.

This meeting took place in late January of this year, and important progress was achieved. We now have a political commitment from our allies which provides the foundation for refocusing and strengthening international control efforts toward critical technologies and equipment.

The system we now have is largely unchanged from its inception 2 years ago when it began as a voluntary, joint effort between the Economic and Trade Ministries of NATO countries and Japan but not including Iceland. It does not reflect the fundamentally changed nature of technology or the increasing rate of change in technology development and information processing. Nor does it, from the U.S. point of view, take account of certain political realities. That is, the Europeans, and to slightly lesser extent the Japanese, tend to tip the balance between commerce and security, toward commerce.

Europeans and Japanese view our stance on technology transfer as naive and commercially unrealistic. Often, they refuse to agree to U.S. proposals and tolerate diversion of very sophisticated products and technical data to proscribed countries. As they put it, we do not distinguish between "truly high technology" and older generation technology which is readily available to the Soviets and others from numerous sources. They say we take an inordinate amount of time to process applications and that we treat applications inconsistently, and speak with multiple voices. Nor do our allies believe that we adequately recognize -- if at all -- that trade, regardless of with whom, means jobs, jobs and more jobs. I can't emphasize this latter perception enough, since unemployment is on the rise in Europe, just as in this country. Another element which influences allies' perceptions toward controlling technology transfers is the greater significance of such exports to their overall economic

performances. We appreciate such differences among nations and are working closely with the allies to minimize differences in approach to the problems posed by Soviet acquisition of high technologies.

Traditionally, since the late 1940's, export controls have focused on specific pieces of hardware (equipment). This approach was somewhat effective for almost two decades since the U.S. was the world's technical leader until the mid-1960's. With the growth of multinational corporations and the revitalization of West German and Japanese industries following World War II, however, the U.S. gradually began to lose its undisputed technical lead.

In an effort to maintain our remaining technological lead and stem the tide of technology transfer to the USSR from the West, the "Bucy Report" of 1976 recommended a dramatic redirection of U.S. and Allied controls: to control technology and keystone equipment while decontrolling some finished products at a lower level of sophistication.

This approach was accepted in the EAA. Under the EAA, critical technology means technology that is critical to the production of U.S. weapons or which would increase significantly the military capabilities of a potential adversary, such as the Soviet Union. The U.S. is currently refining a Military Critical Technologies List (MCTL). The critical technologies list is this country's initial attempt to better focus and, at the same time, strengthen our control system. The overall intent of the Act and the MCTL is to increase controls on technology while reducing restrictions on end products.

The EAA charged the Department of Defense with the primary responsibility for developing the military critical technologies list. It charges the Department of Commerce with responsibility for reviewing and implementing the list. Under such an approach, national security export controls are limited to militarily critical goods, technologies, and the mechanisms through which they may be effectively transferred. Let me emphasize that the MCTL is focused on restraining high technology trade with potential adversaries, such as the Soviet Union, not our friends and allies.

As initially developed in October 1980, however, the critical technologies list was found to be too broad in scope. Defense then undertook revision of the list.

The ongoing review of the revised critical technologies list includes participation by U.S. industry, through the Multi-Association Policy Advisory Committee (MAPAG). Industry's

expertise will be an invaluable contribution to the review and will, moreover, help ensure a common understanding between Government and the private sector as to what technologies/commodities are deemed "critical." Most importantly, once completed, the list could provide the basis for shaping future strategic trade controls.

In addition to working toward strengthening multilateral controls on critical technologies, the United States is also examining ways to prevent the illegal diversion of controlled commodities to the Soviet Union. The Soviets have been unrelenting in efforts to obtain Western technology.

We are concerned that present enforcement efforts are not adequate to deal with Soviet illegal acquisitions and the risk of diversion. While seeking increased communication and tightened multilateral enforcement efforts with our COCOM allies, we are also making internal U.S. efforts. We are:

- o increasing preventive enforcement efforts to identify and plug diversion conduits by working with major U.S. suppliers to detect suspicious orders;
- o reviewing, more carefully, all license applications to screen for problem consignees;
- o increasing substantially the number of Customs inspectors in the field;
- o upgrading the status of the compliance function of the Department of Commerce, and adding investigators, and opening two compliance field offices on the West Coast; and
- o making sure that we have good enforcement coordination with intelligence and other agencies which have responsibilities in these areas.

In December 1981, the penalties for willful and knowing criminal violations of the EAA were increased from \$100,000 to \$250,000 for an individual and from \$100,000 to \$1,000,000 for a corporation. In addition, the civil penalty for violations involving national security controls was increased from \$10,000 to \$100,000 per violation.

A major area of focus in connection with enhancing present enforcement activities is third country diversion of critical technology and commodities. It is a fact that this is more likely to occur in some countries than others. As such, some control mechanism is needed. We have a system in place now -- re-export controls -- to minimize diversion. Some critics have said that it is too cumbersome, while others have said that it is too loose. Both are probably right.

We should reduce paperwork when we are confident the risk of diversion is minimal, and increase vigilance where the risk is greater. We believe a thorough assessment of all countries is required to determine what type of export control mechanism would be appropriate for each country. For example, for COCOM countries we might only require a letter of assurance, whereas for other countries we may consider requiring a validated license. This possibility is being examined, but within the framework of minimizing effects on West/West trade.

I want to stress that our efforts to keep high technology from the Soviets is not an exercise in futility. While our results may not be immediately apparent, the truth is that our controls are working. We have succeeded in making things more difficult for the Soviets; and to the degree that we make technology acquisition difficult and costly to them, we gain time.

The Administration recognizes the importance of trade with both the Free World and communist nations. We are committed to minimizing the disadvantages of export controls to the business community, while ensuring our national security and foreign policy.

The communist nations must recognize, however, that the extent of our non-strategic trade with them will depend on their adherence to accepted international practices. For example, as President Reagan has said, the Soviet Union and Poland must realize that we will not conduct business as usual with them while repression continues. In short, while it is our goal to reduce the use of foreign policy trade controls, we are not prepared to forego the use of these controls as part of an overall response to future Soviet aggressive action.

We have recently re-evaluated our overall foreign policy controls. Effective March 1, 1982, export policy controls were extended, with some modifications, through January 20, 1983. USSR controls have been expanded to cover a broader range of equipment for truck manufacture, for both the Kama and ZIL truck plants. This will make yet clearer to the USSR, U.S. displeasure with Soviet actions in Poland and Afghanistan. It also serves to illustrate Administration intent to reduce the flow of technology and critical equipment which the Soviets use to support military priority industries.

We are also reviewing the export regulations with the goal of streamlining the system and clarifying the language. Specific attention is being focused on the Technical Data Regulations. This area is being clarified in order to provide more explicit guidance as to whom, and under what conditions, the requirements of the regulations apply. Such clarification is becoming increasingly important as academic institutions are becoming more and more involved in research with industrial applications.



In the past, there has been confusion over the application of the Technical Data Regulations. They apply to transfers of all applied technology, including those by industry, individuals, and academia.

The application of export controls to scientific exchanges is illustrated by an incident that occurred under the previous Administration. In February 1980, a conference on advanced computer memory technology was to be attended by representatives from the USSR, Eastern Europe and the PRC. U.S. sponsors of, and participants at, the conference included both industry researchers and university faculty. Since the technology to be discussed at this conference included data which was not publicly available but was related to industrial processes, nationals of proscribed countries could not participate. The sponsors restructured the conference so that the information presented would either be publicly available or would only address general technology trends and not manufacturing processes.

Clarifying the regulations for the transfer of technical data is not a simple process. We are consulting with other concerned agencies, such as the CIA, Defense, State, Justice and the National Science Foundation. At the same time, we are attempting to involve the academic and industrial research communities in developing a workable set of regulations. We are also exploring ways that these communities can provide advice to the Department on a continuing basis. This is unquestionably a sensitive and complex problem. We are striving to restrict the transfers of technology that impair our national security while not unduly burdening scientific research. This is vital to fostering the technological breakthroughs we need in order to become more productive in today's highly competitive technology market.

I've left one area unmentioned thus far, that of making "foreign availability" determinations as required by the EAA. Although the mere existence of goods and technology in places available to the Soviets would not of itself be dispositive as to whether a license should be issued or not, it could be of balance-tipping significance. However, we do not yet have an adequate capability to make these foreign availability evaluations. The Commerce Department is developing a better capability with the support of the intelligence community. The CIA has created the Technology Assessment Center in partial response to this need and we are working closely with them.

If we are successful in improving our ability to make such determinations, and can demonstrate publicly that those determinations play an important part in the licensing process, we will move a giant step towards convincing the American business community and our COCOM partners of the serious commitment we have towards an effective export control policy.

I also want to mention one concern which industry frequently raises: In the past, industry groups have complained that delays in licensing decisions have seriously hurt the ability of U.S. firms to plan marketing strategies and follow through on export contracts.

The backlog of applications which were beyond the statutory deadlines for processing -- over 2,000 a year ago -- has been eliminated. Every effort is being made to ensure that applications are processed within statutory deadlines.

We have also worked hard in the past twelve months to breathe new life into the interagency decision-making process. Senior officials from Commerce, State, Defense and other agencies frequently meet to iron out policy issues impinging on the control process. Cooperation among the agencies is high and differences are worked out in a business-like manner.

Before closing, I want to offer a few thoughts on U.S. concerns over the proposed Siberia-West European gas pipeline. The Administration remains convinced that it is not in the West's best long-term interests to increase dependence on Soviet energy supplies. The Siberian pipeline opens a new stage in East-West commercial, political, and strategic relationships which deserves careful attention.

Once the pipeline project is initiated, the USSR gains several short-term advantages.

- Soviet leaders reap immediate rewards from a strategy designed to subvert the Western Alliance through trade, particularly in the energy sector. The USSR may be pursuing the twin objectives of (1) destabilizing the major energy-producing nations in the Middle East, and (2) capitalizing on West European fears of energy supply interruptions to attract large scale investment in the Siberian resource base. Once the pipeline is begun, the USSR may have a greater, not a lesser, temptation to intervene in the Middle East since instability in the region further increases Europe's dependence on the USSR and makes natural gas an even more attractive alternative to oil.
- The Soviet economy would receive a substantial boost from the \$10 billion in Western investment destined for the Siberian project. Such an infusion of capital could be a real spur for Soviet economic growth rates which have steadily fallen over the past 15 years. The USSR's rate of growth in the GNP was 5.3 percent from 1965 to 1970, 3.8 percent from 1970 to 1975 and 2.8 percent from 1975 to 1980. It is still declining.

- If the USSR succeeds in maximizing output from the Urengoi natural gas fields and in building the export line to Europe, it will have taken the single most important step towards the goal of industrializing Siberia. The industrialization of Siberia constitutes the greatest developmental challenge the Soviet government faces in the last quarter of this century.
- The West would have enabled the Warsaw Pact to avoid its own potential energy crisis -- before receiving any commitment that the Soviet Union will not attempt to disrupt Western energy security.
- The West will have surrendered its economic and diplomatic leverage over the Soviet energy future while providing the USSR substantial new and permanent leverage over the nations of Europe.
- The USSR would be able to establish a "false detente" based on trade while continuing their adventurism, either directly or through proxies, in areas such as South East Asia, Africa, and Central America.
- The pace of Soviet-European commercial and political integration could accelerate. This contributes to a growing neutralist trend in the West.
- The USSR would have begun the process of configuring world energy markets in its favor and reducing the economic viability of a Western energy "safety net" for Europe. Western Europe's future demand for energy, particularly natural gas, has finite limits. The USSR is positioned to meet that demand with its exports through the Siberian pipeline. The Free World will increasingly lose opportunities to develop its own mining, transportation, and manufacturing infrastructure as the Soviet Union attracts Western capital to expand its role as the major "swing supplier" of energy to Europe. U.S. coal exports to Europe, for example, could be adversely affected.

Once the pipeline is completed, the USSR also gains a number of long-term advantages that are even more threatening to the security of the West.

- The USSR could weaken the determination of our allies to cooperate with economic sanctions on credits or high technology exports by threatening to withhold energy supplies.

- The Soviet Union could preserve energy self-sufficiency for itself and other Warsaw Pact nations. The West as a whole, of course, would continue to be vulnerable to energy supply disruptions whether from OPEC, the USSR, or both simultaneously. In a "worst case" scenario of Soviet-OPEC cooperation, Europe would be far more vulnerable to energy blackmail than it is today.
- If Soviet oil production is stabilized or increased, the USSR could accumulate sufficient hard currency earnings to partially offset planned U.S. defense spending increases through increased technology transfers. There is virtually no way of foreseeing what prices the USSR will charge for its energy exports. The Defense Intelligence Agency recently estimated that total Soviet earnings from all energy exports could amount to \$22 billion annually later this decade, if the pipeline is completed on schedule. The USSR could use much of these reserves to purchase technology and equipment from the West to modernize its military industrial base, as was done in the 1970's.
- During a period of recession in the West, the USSR could also use these earnings to erode the effectiveness of the multilateral COCOM control system.
- The USSR would greatly enhance its role in a global economic order that it has sworn to overthrow.

This inventory lists most of the Administrations concerns about the strategic implications of the Siberian project. It is time to recognize the full extent of the Soviet design to achieve the goal of a world government under communism by manipulating what it calls "the contradictions of capitalism."

In the early days of the Soviet regime, Lenin predicted: "There is a force more powerful than all the hostile classes and governments ranged against us, and that is the force of world economic development."

He was referring, of course, to the high degree of economic complementarity which exists between the Soviet Union and its neighbors to the East and West. The USSR possesses vast, unexploited reserves of raw materials, but is deficient in technology and capital. In contrast, Japan and Western Europe are resource poor and technology rich. They also are able to furnish the capital inputs the USSR requires to accelerate the development of specific sectors of the economy. Since the early 1920's the USSR has, in general, been successful in convincing its potential adversaries to invest in the Soviet military and industrial infrastructure.



It is now time to reduce the substantial direct and indirect contributions made by the West to the USSR's strategic capabilities.

This Administration remains deeply apprehensive about the security implications of accelerated East-West economic and political integration. We believe that over the past ten years the Free World has concentrated its attention on the Soviet military threat, while remaining largely oblivious to the Soviet economic threat. We have failed to appreciate that under conditions of relative strategic equivalency the economic aspects of the East-West relationship may be decisive.

This Administration has a clear perception of the dangers that lie ahead. We intend to manage the East-West commercial relationship in a way that protects vital national interests and reduces Soviet leverage over the economies of the West.



UNITED STATES DEPARTMENT OF COMMERCE  
International Trade Administration  
Washington, D. C. 20230

Senator Heinz's Questions:

1. Question:

Which ports currently have adequate facilities and staffing for the monitoring of compliance with export controls?

Answer:

At present, our JFK International Airport office has four inspectors assigned on a permanent basis. The JFK office has a marginally adequate number of inspectors to cover the exports made from that facility. The one inspector at Washington headquarters covers both Dulles International and Baltimore-Washington Airports. This is not adequate coverage. We have plans for the establishment of offices in Los Angeles and San Francisco which will be staffed with additional inspectors. However, we are currently considering the desirability of dropping our inspection role entirely and delegating that function to the U.S. Customs Service.

2. Question:

I am disturbed by what I see as a major gap in preventing technology transfer. Current law would allow, as I understand it, a Soviet bloc country to establish a company on U.S. soil, and further allow that company to purchase all of the sensitive technologies and products that it wanted so long as it does not export those items from the U.S. The Soviet bloc company can buy U.S. technology and look it over right here in the U.S. What sort of legislation or administrative action do we need to close this major gap in our controls on the transfer of technology to the Soviets?

Answer:

Under the Export Administration Act and implementing regulations, the Commerce Department controls the export of technology through a licensing system. The export to communist countries of most nonpublic technology related to industrial products and processes requires specific U.S. government approval, in the form of a validated license. An export may occur where a communist-owned U.S. firm purchases such technology in the U.S. with the knowledge or intent that it will be exported without a license, that is a violation subject to various sanctions, including denial of export privileges.

Under existing law, it is not possible to require a validated license for a domestic transfer to a communist-owned or controlled U.S. firm. Congress may want to consider amending the Export Administration Act to provide this kind of authority. However, there may be constitutional and other due process considerations which would militate against such an amendment.

The Commerce Department has examined some alternatives for dealing with illegal exports by communist-owned or controlled U.S. firms. One approach is to require such firms to report periodically to the Department their projected acquisitions of controlled goods and technology for use in their U.S. operations. Any subsequent acquisition that was not either listed for domestic use or licensed for export would be a violation. This type of approach would avoid both an unwarranted administrative burden on the Department and interference with legitimate business; yet it could help to inhibit illegal exports. For example, if the Department believes that a projected acquisition is particularly sensitive, it could alert likely U.S. suppliers and seek their cooperation in verifying the legitimacy of the claimed domestic use. We are continuing to study the feasibility of implementing and enforcing such a reporting requirement.

3. Question:

In a draft report, the GAO noted that, in general, other COCOM countries do not devote significant resources to enforcement of export control laws, nor do they have laws that significantly penalize diversions of exports. What implications does that analysis have for U.S. policy?

Answer:

This Administration has recognized the need to address the international aspect of the technology transfer problem. To that end, at the Ottawa Summit in July 1981, President Reagan made a personal appeal to the leaders of Europe, Canada, and Japan to join with us in this endeavor. As a result, agreement was reached to hold a high level meeting of COCOM -- the first in 25 years -- to discuss U.S. proposals. The meeting took place in January of this year and a political commitment was obtained from our COCOM partners which will serve as the foundation for refocusing and strengthening international control efforts toward critical technologies and equipment. That commitment was reaffirmed at the recent heads of state meeting in Versailles.

Added emphasis is being given to improving COCOM enforcement coordination and harmonization efforts. Special subcommittees of COCOM have been established to consider member countries' proposals in these areas. In addition, the United States has met bilaterally with several of our COCOM allies to discuss the need and means for increased cooperation in enforcing export control laws.



4. Question:

Does the Commerce Department still employ end-use guarantees in granting licenses for exports subject to national security controls? If so, how can such a policy be justified in light of the overwhelming evidence from the intelligence community that such guarantees are virtually useless?

Answer:

End-use guarantees form part of the documentation requirements for exports subject to national security controls, although they are not regarded as the appropriate basis for approving an application unless other review criteria are also fulfilled. The review process assesses the proposed exports, possible military applications and the potential damage to U.S. national security if the export were to be diverted from the stated civil end use. The process also considers available intelligence information on the end user. If these various considerations indicate that the export could be diverted to military use and/or that there is adverse information on the proposed end-user, the export will be denied, even if there is a signed end-use certificate accompanying the application.

5. Question:

How important is credit to the Soviet ability to acquire high technology?

Answer:

Credit is very important. The Soviet economy is not in good shape and Soviet requirements for Western goods and services require hard currency substantially exceeding Soviet earnings. Since the U.S.S.R. must continue to buy grain and other essentials from the West, the hard currency shortage falls disproportionately on high technology items and capital goods. Thus, if the Soviets obtain Western credits, it tends to support Soviet high technology imports. Without credits such imports would be significantly constrained.

Credits are much more important to the Soviet Union now than earlier. Until recently, rapid increases in oil prices provided a growing source of hard currency earnings for the Soviets. Within the last two years, however, soft oil and gold prices, poor Soviet grain harvests, and decreased Western demands for Soviet exports have combined to limit the Soviet Union's ability to purchase from the West and have limited the U.S.S.R.'s economic choices. In this situation, even relatively minor increases in credits to the Soviets could be significant in allowing the U.S.S.R. to acquire more high technology.

Senator Garn's Questions:

1. Question:

What is the policy of the Commerce and Justice Departments on recommendations made to trial judges for sentencing in criminal cases? Leniency, harshness, or a harsh sentence with most of it suspended? How is that policy determined?

Answer:

In considering appropriate penalties in criminal cases, the Department takes into account several factors. Most important is the nature of the violation -- for example, whether the illegal activity involved the export or reexport of sensitive technology to the Soviet Union. It is essential that persons convicted of such violations be given prison sentences to be served, not suspended, as we believe that potential violations may be deterred if they know it is likely that they may serve a prison term if convicted. We are pleased that, in recent criminal cases involving export control violations, judges have been imposing both prison sentences and significant fines.

Commerce and Justice both participate in the decision as to what penalty to seek.

2. Question:

What is the internal policy of the Commerce Department on administrative sanctions? How is that policy determined? What are the guidelines?

Answer:

In determining what administrative sanction is appropriate in a given case, we review a variety of factors such as the geographical destination of the export, the past compliance record of the exporter and consignee, the national security risk involved, whether the violation was voluntarily disclosed, etc. Many of the administrative cases we deal with involve only technical violations such as an overshipment against the limit established in an existing license. In some of these cases, only a warning letter is justified. In other cases, a civil penalty and/or denial of export privileges may be warranted.

It must be emphasized that the facts in each case vary greatly and that it would be both impossible and unwise to establish rigid guidelines on sanctions. For example, if an exporter knew that the type of illegal transaction he might be involved in would result in a civil penalty of \$5,000 but that he would make a \$50,000 profit, he could decide that the potential gain outweighed the risk. Therefore, the Department does not believe that our export control program would benefit from the institution of "standardized" sanctions.

3. Question:

Current average length of time for administrative cases? What was it 3 years ago?

Answer:

It is difficult to estimate the length of time for an average case because cases differ greatly. Some require extensive investigation both in the U.S. and abroad, and therefore involve delays in accumulation and analysis of information beyond our control. Because there is usually only one agent assigned to a case, accumulation and analysis of evidence is slow. An average diversion case now takes from six months to over one year to develop to the point of referral for administrative proceedings. That length of time is consistent with the time taken to develop a case in the past.

4. Question:

Is training uniform for export control investigators (FBI, Customs, Commerce), and what is the average educational level and level of training for Commerce investigators?

Answer:

The Government does not at present have a uniform interagency training program designed especially for export control investigators. In the past, most of the agents in Commerce were trained in other agencies, and relied on on-the-job training to familiarize themselves with the specialized area of export enforcement. In addition, we have in the past sent agents to the Federal Law Enforcement Training Center (FLETC) for basic investigatory instruction. However, we are now developing a comprehensive and professional program of training for Commerce export enforcement agents, and in this connection plan to make more intensive use of the facilities and services of the FLETC.

The educational level of our investigators ranges from high school graduates to persons with law and masters degrees. The average would probably be in the second or third year of college.

5. Question:

How many agents went overseas last calendar year? Did the agent speak the language? Do we use the FBI overseas?

Answer:

One special agent travelled to West Germany for about three weeks in 1981. He has a basic understanding of German. A second travelled to Austria, Switzerland, and Luxembourg. We do not use the FBI for overseas investigations because the FBI charter does not allow them to investigate overseas. We do make investigative requests for State Department personnel or Customs Attaches, depending on the nature of the inquiry.

6. Question:

How is the cooperation among the FBI, the Customs Service, and the Commerce Department in enforcing the Export Administration Act? Who coordinates the enforcement activities? Who is in charge? Describe a typical enforcement case.

Answer:

Efforts to coordinate the export control-related activities of the intelligence and investigative agencies involved in export control enforcement have increased substantially in the last 12 to 18 months. There are two interagency task forces presently studying the problems of export control enforcement and coordinating the activities of the various agencies. Represented are the Departments of Defense, Justice, State, Commerce, Energy, Treasury, and the intelligence community. Coordination is in the hands of the Justice Department and the National Security Council. Concrete measures have been taken in the past year to step up the level of cooperation between Commerce and other agencies. An outstanding example of these measures is the provision by Commerce to Customs of critical licensing intelligence data, enabling Customs to implement Operation Exodus.

There is no "typical" enforcement case, as they are all so varied. However, as an example, the Office of Export Enforcement (OEE) may receive information indicating that an illegal export may be about to occur. In-house checks for approved licenses, licensing determinations, and other background information are made. If these checks indicate that the item requires a validated license but that such authorization has not been given, the investigation will continue.

If the attempted illegal export is imminent, and is to be from a location where Commerce agents are immediately available, we will usually pursue it ourselves but seek assistance from the U.S. Customs Service. Where OEE personnel are not available, we request Customs assistance. Customs may inspect containers or parcels and, if the item is located, will seize it. The investigation would then continue to determine all of the facts concerning the particular attempted illegal export, and would also, if warranted, be expanded to ascertain whether additional violations have occurred. Frequently, these investigations are a cooperative effort between Commerce and Customs, with one agency taking the lead. Our response to Question #8 further discusses the matter of which agency takes the lead in a particular investigation.



If the investigation requires gathering of evidence overseas, the State Department's Foreign Service Officers', Customs Attaches, and Foreign Commercial Service Officers may participate with the Office of Export Enforcement, as appropriate.

Commerce is principally responsible under the Act for export control enforcement. We depend heavily on Customs for inspection work and will do so increasingly. We seek FBI and other agency assistance as appropriate and the concerned agencies resolve among themselves who should take the lead in particular cases.

7. Question:

How are cases discovered?

Answer:

Most of the serious violations discovered are the result of tips from concerned citizens or from trade sources. Firms and individuals frequently volunteer information on violations committed by their own firms, but these cases are usually relatively minor in nature.

8. Question:

How many administrative cases are pending? How many cases referred to Justice? Who determines what agency investigates a potential violation? What guidelines are used in those determinations?

Answer:

As of June 1, the Office of Export Enforcement had approximately 30 administrative cases pending in various states -- many of these are in the settlement discussion stage, and several involve temporary denial orders pending completion of investigation of potentially serious violations.

Currently, the Office of Export Enforcement and the Department's Office of General Counsel are working with the Department of Justice in connection with approximately 12 cases involving export control violations. These cases are also in various states -- two have resulted in convictions and are on appeal; several are still in the pre-indictment state; a few are awaiting the establishment of a trial date; and, in other cases, Justice is considering whether criminal prosecution is warranted.

While the Commerce Department has primary jurisdiction for investigating export control violations, very frequently the Office of Export Enforcement works closely with other federal law enforcement agencies, such as Customs and the FBI. Cooperative efforts enable each agency to contribute its particular expertise in the course of an investigation, and have proven to be quite successful. For example, Customs may inspect shipments at the point of export, and, at its own initiative or at the request of the Office of Export Enforcement, may seize shipments which appear to be illegal. Further, while the FBI has authority to conduct espionage and foreign agents registration investigations, occasionally such investigations reveal potential export control violations as well, necessitating joint investigations.

Overall, the Department is committed to the Administration's goal of expanded cooperation and communication between the law enforcement and intelligence communities in order to vigorously enforce the Export Administration Act.

There are no specific guidelines in the determination of what agency takes the lead. The agencies decide as the case develops which should take the lead as facts are uncovered.

9. Question:

It is sometimes difficult to reconcile commercial and security interests in administering export controls. Wouldn't it be appropriate to remove the administration of export controls from the Department to eliminate this tension with the Department?

Answer:

We do not view the presence within the Department of export promotion and export control functions as in any way contradictory.

The proximity of the export control function to the export promotion program assures substantial familiarity with export control on the part of trade promotion personnel and vice-versa. In fact, this familiarity helps us to make exporters aware of their responsibilities. It has never been the intention of the law to create disincentives to exports any more than necessary to control certain exports. This balance, too, is served by proximity. As an example, during the efforts in recent years to increase trade with the Peoples Republic of China, the export control dimension of the problem was always very much in the mind of ITA officials from the Under Secretary down to those with particular promotional or control functions.

Therefore, we do not see the export promotion function with the Department as posing problems for enforcement or providing an inappropriate atmosphere for the enforcement of export control laws.

10. Question:

I am concerned that administrative and criminal penalties that have recently been given for violations of export controls have been too lenient to be effective deterrents. Far too often most if not all of the sentences are suspended. I find the willful violation of export controls to be extremely reprehensible, comparable to treason. And the costs, in budgetary terms alone, to the United States are enormous. The intent of Congress, emphasized in last year's Act, is that the penalties be severe. Why have they been so lenient?

Answer:

I agree that willful violations of export control laws should be dealt with through the imposition of severe penalties, particularly if the penalty levels are to serve as an effective deterrent. It has been our view that the denial of export privileges is an effective administrative deterrent and we have denied export privileges to several persons and firms.

In addition, the recently enacted increased criminal and monetary civil penalties for violations of national security controls should help to deter potential violations, and the Administration supported those changes. Under the new law, a firm which is found guilty of national security violations can be fined not more than five times the value of the export or \$1 million, whichever is greater, for each violation. Individuals can be fined up to \$250,000, or imprisoned for up to ten years, or both. The maximum amount of monetary civil penalties for violations involving national security controls was also significantly increased -- from \$10,000 to \$100,000 per violation. All of these increased penalties apply to violations occurring after December 29, 1981, and we will certainly take them into account as we develop new cases.

It should also be pointed out that prior to the 1977 amendments to the Export Administration Act, the maximum criminal penalty amounted only to a misdemeanor. Therefore, on the criminal side, it was often difficult to persuade the appropriate U.S. Attorney to prosecute these complex cases. Because these violations now carry penalties at the felony level, and because of the more aggressive role taken by the Department of Justice and U.S. Attorneys' Offices to prosecute, more criminal cases have been brought recently and stiffer penalties and prison sentences have been imposed.

It should be noted that in criminal cases, it is the judiciary that ultimately imposes the sentence regardless of any executive recommendation for stiff penalties. I believe it is appropriate to reassess whether increasing the sentence ceiling alone would serve as an effective deterrent. We shall be considering proposals to change the legislation during the coming months and, based on our findings, will recommend statutory amendments as appropriate.



11. Question:

A recently established program of research and development on the very high-speed integrated circuits involves a number of universities. Presidents at five of the universities have complained that the controls on the research in this area violate academic freedom, to the extent that controls are placed on those who are participating in research. Why do you think they need to be imposed?

Answer:

Controls over the transfer of U.S.-origin technology outside the U.S. are applied uniformly to all sectors of the U.S. exporting community. The controls that apply to the export technology from U.S. businesses and corporations are the same as those applied to the activities of the U.S. academic community. The fact that these controls have recently affected some university functions reflects both the increased level of university involvement in applied research activities over the past several years and the growing number of foreign scholars at U.S. academic institutions.

The Export Administration Regulations provide for the uncontrolled exchange of scientific or educational information through instruction in academic institutions and academic laboratories, provided that such information does not involve research directly and significantly related to design, production, or utilization in industrial processes. Where such industrial process information is concerned, the Export Administration Regulations apply export licensing restrictions regardless of the origin of the export. Such restrictions are necessary to exercise vigilance over exports from the standpoint of their significance to the national security of the U.S.

Very high speed integrated circuits represent a case in point. These circuits have the potential for use in all types of military electronic devices. They currently represent one of the most important strategic technological advantages the U.S. has which the Soviet Union does not have. Where university activities involve application of these circuits to industrial processes, rather than the academic pursuit of basic research, it is essential that export controls be appropriately applied to restrict the transfer of this technology in accordance with the Export Administration Act and the Regulations thereunder. The Department of Commerce is currently working with the American Association for the Advancement of Science in order to take into consideration the concerns of the academic community in this area.

12. Question:

To what degree are FCS officers trained in investigative techniques, especially as regards information which may be used in criminal or administrative proceedings.

Answer:

It is true that FCS officers are not trained investigators, and that some of the advantages that experience and training lend to an investigator in his pursuit of facts may not be available to an FCS officer handling his first export control inquiry. On the other hand, most of the FCS officers we have had contact with are interested and concerned government employees who are most capable of conducting liaison with foreign government employees, asking questions, collecting documents, and reporting the results of their inquiries. Such information is valuable in both criminal and administrative proceedings. We are more concerned with obtaining information rather than who obtains it. FCS officers are not requested to conduct surveillances or extensive interrogations, or take other actions which only experienced and trained investigators would be expected to do. FCS officers do a commendable job and provide knowledge of the locality and language which can be important to the successful conclusion of an investigation. We fully expect FCS officers to aggressively support investigations in the future. In a criminal case, we would anticipate sending our own investigators overseas as we have in the past.

Senator HEINZ. I would draw your attention, though, to an article that appeared in today's New York Times, entitled, "Illegal-Export Seizures Cited," where Customs Commissioner Von Raab, who we intend to invite to appear here in the future, announced that his agency had made more than 200 seizures in its crackdown on overseas shipments of high technology equipment. He went on to say, this involved lasers, computer components, military equipment.

Licensing requirements for the export of high technology had not been aggressively enforced in the past, and that some of the companies either were not aware of the limitations or ignored them.

Now, it is you more than anybody else who is responsible for the administration of the act. We've given you some very tough sanctions. It was my amendment to increase the penalties under the act to a million dollars and 10 years in jail. That ought to be enough and long enough for anybody.

My question is: How do you assess the fact that so much exporting is going on right under our nose?

## IMPACT OF ILLEGAL TRANSFERS

Mr. BRADY. Mr. Chairman, I think if we look at the issue in perspective, it was in the last year, toward the end of the last year of the Carter administration, that this whole problem started—maybe unravelling is the wrong word—but I think we started appreciating the impact of illegal transfers. And that was done, frankly, a lot of the work was done at the insistence of Dr. Brzezinski and Bill Odum, who were on the NSC at that time.

I think the work done by the CIA, the Defense Intelligence Agency, the CIA, in the last year and a half has brought us to where we are today, so that we have, in fact, taken 100 to 200

people in Customs and put them at ports inspecting these shipments.

We always suspected that there was an element of illegal transfer taking place, but I think, as a government, we never appreciated the magnitude.

Also, the technology, as it becomes more sophisticated, is more difficult to control. It's more difficult to control blueprints, know-how, rather than a piece of equipment which is what controls applied to in the late 1950's.

So I think that we're at the point now where we are looking at the control, the enforcement apparatus, and saying that it was designed for a time when the technology was different, the controls were different, and now we've got to change it. And that's what we're doing in my agency. We have a head count of, I believe, something like 55 people that are basically the coordinating arm because, obviously, with those numbers of people, we cannot conduct inspections at the ports. That's the Customs' job. What we want to do is to be the coordinating arm with the U.S. Government so that we can take the information we get from the FBI, CIA, DIA, Customs, and be an enforcement arm, white collar enforcement arm, in essence, investigative arm. And we're getting there. We're opening up the offices on the west coast. We're going to be restructuring our own enforcement apparatus. We're going to elevate the apparatus to the Deputy Assistant Secretary level in the very near future, all by way of concentrating the enforcement and bringing it really up to what is necessary in the 1980's.

Senator HEINZ. I understand that there are 53 positions in the enforcement division, but that of those 53 positions, 19 are vacant. Is that correct? And if so, why is there such a high vacancy rate?

Mr. BRADY. Because the 19 that are vacant were made available to the office in recent months. I believe 15 of those 19 are for offices on the west coast. The recruitment process is underway. I understand that it's nearing completion for a good number of those positions. In effect, we're in the process of hiring, but haven't made the final decision.

Senator HEINZ. Did those positions become available as of the beginning of the fiscal year, October 1, or with the passage of the continuing resolution in December?

Mr. BRADY. Mr. Chairman, I can't answer that. I don't know.

Senator HEINZ. My understanding would be that they've been available for a few weeks. They've been available at least since December, since early or middle December. Would that not be accurate?

Mr. BRADY. Even if that was the case, it would take more than a couple of months to recruit individuals for those positions.

Senator HEINZ. There is an allegation that Commerce and Justice go very easy on people who violate the Export Administration Act, that their recommendations made to trial judges for sentencing in criminal cases aren't very strong.

What is the Department policy on plea bargaining and recommendations in issues such as that?

## PROSECUTIONS

Mr. BRADY. Well, I think we have to, Mr. Chairman, draw a distinction between the criminal prosecutions and the administrative prosecutions, the latter of which we conduct in Commerce itself.

I think, and I don't mean my statement to imply a criticism of Justice, but I think up until very recently, it was difficult to get Justice personnel in the field really enthused about these kind of prosecutions because we had come off a period of détente in which, you know, the objective was to grow closer and to bring about an economic interdependence.

So that these cases weren't viewed as very important. I think we owe a great deal of the public consciousness, the increase in public consciousness, to the prosecutor on the west coast, Ted Wu, who has been successful in a number of prosecutions of these cases.

I don't think that it's fair to say that we have been lenient in trying to prosecute the cases. I don't think that that's fair at all, as far as the criminal area is concerned.

Let me also make the point that it's sometimes very difficult to get the required information to prosecute cases from a criminal standpoint. And administratively, it is sometimes easier. I don't think that we, however, are all so timid in prosecuting from an administrative standpoint. I do think that there is a question of resources available to the effort. I think that we could pour a lot more resources in and probably accomplish a lot more.

But there are constraints, budgetary constraints, on this function, as well as other functions throughout this Government. But I don't think that we have a laissez faire attitude toward this program. I think precisely the opposite. But, again, I have to concede that the consciousness has increased in the last year and a half.

Senator HEINZ. A good deal of the acquisition of our technology by the Soviet Union is made through third countries. We will sell to some allegedly neutral country and there will be a resale that we don't know anything about, that we don't control. What do you propose to do about that?

Mr. BRADY. Well, one, as we work with Customs, and we're working more closely with Customs now than I think we ever have before, there are certain routes, so to speak, the diversions take. We know where to concentrate our resources in dealing with those diversions. That means approaching the countries involved and trying to increase their level of activity and their consciousness to the diversions.

As Under Secretary Ikle indicated, as part of the CoCom meeting in January, we got some fairly strong support from the allies in terms of the enforcement effort and their help within their boundaries in sharing with us information, data required to prosecute diversions through those countries.

In the final analysis, I think that as we go through the CoCom negotiations in the next year, and as we iron out what our negotiating positions are going to be, we're going to come to grips with the question of how we treat Third World countries—third countries, not Third World countries—in terms of technology controls, in particular. And will we continue the letter of assurance concept



that we have today or will we actually require a license for some technology?

That will undoubtedly come under discussion and I don't know how it will be resolved.

Senator HEINZ. My time has expired, but, with Senator Armstrong's permission, I will ask one additional question and turn it over to him.

From your testimony, it sounds to me like the Export Administration Act is adequate. It is enforcement. It is inadequate staffing, traditionally. It is attitude. It is some problems at Justice. It is some problems in third countries. It is the fact that CoCom hasn't had a meeting up until January for Lord knows how long. But there's nothing much wrong with the Export Administration Act, except no one gives a darn about it, either in this country or any place else, up until, perhaps, a year ago when you and Mr. Ikle and others took over.

Is that the problem or are there actually some defects in the act? Or is it really just a question of, you know, the act provides all the necessary authorities; it's just a question of getting all the rather complicated, intricate, but vitally important pieces together?

How do you see that big picture?

#### CONGRESSIONAL CONCERNS

Mr. BRADY. Mr. Chairman, I think, very candidly and somewhat personally, the act does provide all the responsibilities and the authorities. But the act and the legislative history over recent years has also sent a certain signal to the executive branch. And that signal has been we in the Congress are less concerned about the national security aspects of this act than we are about processing licenses on time, than we are about the foreign availability provisions of the act, et cetera, et cetera.

So I think from looking at it from the other end of Pennsylvania Avenue, from the executive branch end, there is the perception that the Congress was less concerned about the national security concerns than it was about just expediting the cases, making sure that the businessman was not put at too great a disadvantage.

And so from that standpoint, perhaps, the Congress should—well one last point before I make that.

That has a relevance in terms of how the executive branch then factors in strategic trade—

Senator HEINZ. It's not slowing you down, is it?

Mr. BRADY [continuing]. As an element of its foreign policy.

Senator HEINZ. It's not slowing you down, is it?

Mr. BRADY. The process may be slowing me down.

Senator HEINZ. But all this legislative history in the 1970's isn't slowing you down, is it?

Mr. BRADY. Mr. Chairman, as Senator Garn said before he left, before I took this job, I had a long talk with the Senator and I told him that I would try to conduct this office as an office of strategic trade, that I did not view my job in the sense of a trade promotion job, as are the jobs in other areas of Commerce.

My job, as far as I'm concerned, is to protect the national security from a trade standpoint, not to broaden controls unnecessarily

or anything like that, but just to make sure that we control what is truly in our strategic interest, and to try to get that viewpoint factored into the decisionmaking apparatus within the executive branch.

And I think on that latter point is where Senator Garn feels that we may not have been successful. And I think there is a question of skill.

Senator HEINZ. Well, you're in charge of that. Do you think that you're being successful?

Mr. BRADY. I think that we are being more successful than ever before, let me put it that way. And I know I'm begging off the question to a certain extent.

Senator HEINZ. You did a thorough and complete job in that regard, but I understand.

Well, I am imposing on Senator Armstrong's time. But what I hear you saying is that it's not the act; it's the way it's been interpreted by the bureaucracy for a number of years, taking perhaps its lead from some of the legislative debate. If you have any more specific thoughts on that, I would be happy to receive them from you, either informally or on another occasion. But I would like to be very clear on what your thinking is on that, although I won't take the time of the committee to go into that further.

So thank you, Secretary Brady. Senator Armstrong?

Senator ARMSTRONG. Mr. Chairman, Mr. Brady's statement is extremely good, in my opinion, not only for its substance, but for its style. And Mr. Brady, I want to compliment you particularly on the precision with which you have identified the administration's concerns about the security implications of accelerated East-West economic and political integration. Of course, those concerns fly directly in the face of practically everything that has been both the official and unofficial policy of this country for a number of years, which was get as close to the Russian bear as we possibly can, in every economic, political and cultural sense. And the closer we get to them, the more they are going to be like us.

The question which you are raising, I think, is a very valid one and one about which I have some reservations and haven't reached a total conclusion. But I think it needs to be laid out on the table as a broad gage concern, not only to this subcommittee, but to the Congress and the Nation.

Has this experiment in detente produced its desired result? Are we drawing closer to an implacable enemy, or are they, in fact, moderating their objectives and tactics?

I also want to congratulate you on the reputation that you have for really being serious about this problem when so many people have not been. I liked your statement about the Yamal pipeline. I want to ask several questions directly about that.

#### COMPLETION OF PIPELINE

First of all, in your judgment, can the pipeline be completed on schedule without the participation of the General Electric Co., its manufacturing associates, or its licensees?

Mr. BRADY. Absolutely not.

Senator ARMSTRONG. Absolutely not?

Mr. BRADY. Right.

Senator ARMSTRONG. What in your opinion, therefore—

Mr. BRADY. Not on schedule. It may be completed, Senator, but certainly not on schedule.

Mr. ARMSTRONG. That was exactly my next question. What, in your opinion, would be the consequences to the Soviet Union, particularly to its economy, on the ability of the Soviets to continue modernization of their armed forces if, in fact, there is a substantial delay in completion of the pipeline?

Mr. BRADY. A substantial delay or, obviously, the cancellation of the pipeline, is very much, we feel, in our interest. Any system of controls, and let me be reflective for one moment, any system of controls must apply to the current state of economic conditions, the current economic and political order.

For the rest of this century, there is nothing that is more important to the Soviets than the development of their energy resources, particularly Siberian gas, because otherwise, they cannot earn the hard currency necessary to continue devoting the resources that they have been devoting to their military. Something like 68 percent of their hard currency today is earned through the export of oil. That is going down. There is no question about that. There is disagreement on the degree of downturn. They have to make that up somehow, and the export of gas is the only thing that they have to sell the West to earn that hard currency.

So from the standpoint of the overall ability of the Soviet Union to continue its aggressive behavior, its adventurism worldwide, the pipeline is critical.

Senator ARMSTRONG. Does the present law permit the U.S. Government to forbid the participation of the manufacturing associates of General Electric and its licensees from participation in the Yamal pipeline project?

Mr. BRADY. Senator, if I understand the question correctly, you're asking me—let me put it in specific terms—whether the French licensee or U.S. subsidiaries overseas are precluded from supplying products to the Soviet Union?

The controls that the President imposed on December 29 had not been applied extra-territorially, which means that they had not applied to the subsidiaries overseas, they have not been applied to licensees of U.S. firms overseas. And therefore, from that standpoint, they are not precluded from exporting.

They do apply, however, to commodities that are being incorporated in products being put together in third countries, such as Germany and Britain, for instance, are putting together compressors with rotor parts, components that were exported from the United States before December 30. Those are controls applied to those components, both that are now in the United Kingdom and in Germany.

There's also no question that if we wanted to, we could reach U.S. subsidiaries overseas. The law is very clear and I believe it was amended in 1978, as far as granting the executive branch that authority. There is a question as to whether the law reaches the licensees of U.S. companies overseas. However, with regard to the French licensee, and I can't go into this too deeply, but there is a contract between GE in the United States and the licensee. The

elements of that contract impose certain restrictions on the French licensee and no one is quite sure yet precisely what those restrictions are.

Senator ARMSTRONG. It's your testimony, then, that at least with respect to overseas subsidiaries, the present law would permit the imposition of controls, but we have not yet chosen to do so.

Mr. BRADY. There is no question but that U.S. law permits controls over subsidiaries.

Senator ARMSTRONG. Over U.S. subsidiaries.

Mr. BRADY. Over U.S. subsidiaries overseas. That doesn't mean that the countries involved will accept the application of that law. As a matter of fact, there is a very, very strong resentment in European countries over the attempt by the United States to reach what, of course, our boycott law reaches overseas as well as a couple of other laws.

Senator ARMSTRONG. But we have not chosen to invoke that provision of law at this time.

Mr. BRADY. We have not, that's right. The President has held that in abeyance.

Senator ARMSTRONG. And I want to be absolutely crystal clear. It's your feeling that he has that authority with respect to overseas subsidiaries. You think that there is a gray area with respect to licensees and that remains to be resolved as a matter of law, as well as as a matter of policy.

Mr. BRADY. That's right.

Senator ARMSTRONG. Let me move on. I may come back to that in just a moment. In your opinion, what impact, if any, would there be on the present plans for construction of the pipeline if the United States were to declare Poland in default on its Commodity Credit Corporation loans?

Mr. BRADY. I'll try to avoid the pitfalls that Fred Ikle got into in answering that question, partly because it's an unknown. If the United States declared Poland in default, there is a question as to what would happen with Romania, East Germany, and Czechoslovakia.

The debt of those four countries is substantial, particularly vis-a-vis West Germany. There is a question as to the impact those kinds of defaults would have on the Western financial system, particularly Western Europe. When you try to draw from that to the pipeline and would West German banks still be prepared to loan money for the construction of the pipeline, I think you're getting into a question that is very difficult to answer.

I mean, there are many in this country today, and I'm not talking about public officials, but I'm talking about in the private sector, who can't understand the economic reasons, for instance, for the West Germans willing to loan for the pipeline. The most cynical will say that it's the only way they hope to get repaid for some of the loans already made, and I think that there's an element of truth to that. I think there is a question of throwing good money after bad, in essence, that since the Soviets, since the only hard currency or earning power that they've got is the export of gas, then this is the only way to get some of the money back.

Senator ARMSTRONG. Back to the pipeline, though. If that's true, and I grant you you're speculating, but doesn't it appear likely that



if we pull the plug on the loan, that we delay, if not totally defeat, the construction of the pipeline? It certainly doesn't help the construction of the pipeline. It certainly raises serious difficulties.

Mr. BRADY. No, it would make the whole context much more difficult, yes.

Senator ARMSTRONG. Now I want to keep that in mind, since that is an action, as I understand it, that is automatic under the law. The default is automatic, unless it is overridden by an action of the administration. And that is what has happened. What has transpired, as I understand it, is that there is a way in which the default provision can be waived and that has been waived.

I would just like to set that aside for a moment and come back to the other line of questions about the pipeline.

It appears to me that it is very doubtful if the United States should choose to impose controls on foreign subsidiaries, and even licensees, it is very doubtful that a foreign licensee would jeopardize their relationship with the U.S. company of which they were a licensee by violating the terms of such a prohibition, even if, in fact, there were legal question about it.

I don't ask you to particularly respond to that because that is purely a matter of judgment and we all have our own opinion about it. But what I am in doubt about is why, if it is such a high priority matter of national policy, as you have mentioned, to head off the construction of this pipeline in the Soviet Union, why the President has neglected to take this step, which he has at least some clear legal authority to do and probable or possible or arguable legal authority with respect to the licensees?

Why shouldn't he just go ahead and say, look, we're slapping the same controls on the subsidiaries and licensees that we have put on our domestic companies?

Mr. BRADY. Senator, without getting involved in some of the aspects of these discussions that are clearly confidential——

Senator ARMSTRONG. You mean in the executive branch?

Mr. BRADY. Yes.

Senator ARMSTRONG. I don't want you to do that and forgive me if I'm putting you on a spot you don't want to be on. Would you like me to rephrase my question?

Mr. BRADY. No. Just let me say to followup——

Senator HEINZ. Senator? Would we be able to have this discussion closed session?

Mr. BRADY. Let me see if the answer I give you is adequate. I think that Fred Ikle answered the question by saying the threat of certain actions was, in some cases, as powerful as the action itself. And that, I think, is the gist of this. The extraterritorial application of U.S. law, regardless of how one feels about it, whether pro or con, is going to generate some very serious discussions among the Western community.

And if we could accomplish the same objective without getting involved in that kind of a tension-creating atmosphere, I think we would prefer it. And that really is what we're talking about. But, nevertheless, the President has repeatedly stated that he's holding in abeyance these options.

Senator ARMSTRONG. Well, if I felt strongly that it was wise——first, if I agreed with you that it's a high priority matter of nation-

al policy for the United States to preclude the construction of that pipeline or to slow it down, and if I thought that the way to get that done was to have the President impose these export controls on overseas subsidiaries and licensees, then I suppose one course of action would be for me to call up the President and say, look, slap those controls on. That would be one way to get it done.

Mr. BRADY. [Nods in the affirmative.]

Senator ARMSTRONG. Let the record reflect that the witness is nodding, but not committing himself.

[Laughter.]

Senator HEINZ. The clerk will do his best to do that.

Senator ARMSTRONG. But I can't help recalling, Mr. Chairman, that Mr. Brady testified earlier that one reason for the problem we have is the signals that have been transmitted from Congress, that notwithstanding the statute, that really, Congress doesn't act like it's very serious about this and that the priority is to be sure that businessmen are not too much inconvenienced and that their convenience and profits are taken into account as a major factor in the decision, although with security interests.

And so that makes me wonder about an amendment which I had been considering the possibility of offering on the defense bill next week. The defense bill is to authorize spending for various kinds of military projects to defend our country. It is the testimony of this witness and the prior witness that probably as good a thing as we could possibly do would be to head off this pipeline.

So I wonder why it wouldn't be well either to offer an amendment to direct by statute that all of these various products and technology to be used in the pipeline simply be cut off or, in the alternative, to express the sense of the Senate that that be done, if, in fact, one of the real problems with the administration of this act is the contradictory signals being sent by the Congress.

Let's reflect on that and perhaps that's something that we could talk about in the next few days. I have been thinking about such an amendment anyway and it was kind of brought into focus by your testimony this morning.

#### CONSCRIPT LABOR

I have two other related questions that I want to ask, and that is this. Is it the policy of the Commerce Department to authorize U.S. participation in projects in the CoCom nations which utilize conscript labor?

Mr. BRADY. Senator, I have to concede that up until very recently, that was not an issue that would be factored into the decision-making process. I think as we look at the major projects that the Soviets become involved in, particularly as we look at the flagrant violations of human rights after Helsinki, it becomes more and more of an issue that we must look to.

I would certainly think that the Department of State, the Office of Human Rights at State, as well as other offices of the U.S. Government, would factor their feelings into the process in reaching those kinds of decisions. I am aware, if what you're getting at is the question of what kind of labor is going to be used on the pipeline, I am aware of the allegations that are being made with regard

to dissident labor within the Soviet Union. I think that there is some question as to whether there will be Cuban labor, Vietnam, Cambodian labor. And certainly, these are issues that have a moral character to them and would have to be factored in, yes.

But I also have to say that that is the kind of information that is very, very sparse, if available at all.

Senator ARMSTRONG. We have information from three sources, which I can't verify, except to say that it's come to my attention, from three sources, including an article on the Op-Ed page of the Wall Street Journal of March 24, 1982, that perhaps as many as 500,000 Vietnamese guest workers have been planned to work on this pipeline in Siberia.

Now I'm really wading into water that I don't know the true depth of, but it appears most unlikely to me that any Vietnamese would be attracted by the working conditions and lifestyle of Siberia to work on a pipeline. [Laughter.]

We also have that information——

Senator HEINZ. Would you have to limit that to Vietnamese? [Laughter.]

Senator ARMSTRONG. Well, I don't want to go into detail on that. I'm going to put in the record within the next day or two several articles on this subject.

[Material received for the record follows:]



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 Translated by Nguyen Hoa Descriptive Cataloging Processing Services  
name division department  
 Date 5/24/82

☒ Complete☐ Abstract--Please call the Congressional Research Service (426-5700), if a complete translation is desired.

Evry, 1 May 1982

Mrs. Le Thi Anh  
 Vietnamese Information Bureau  
 3105 Crest Avenue  
 Cheverly, Maryland 20785

Madam:

During the period from April 6 through April 27, 1982, we received information from Vietnam, Thailand, and China regarding the export of Vietnamese labor to the Soviet Union and the countries of the Warsaw Bloc. Until the end of March 1982, approximately 16,000 Vietnamese were forced to go to these countries. During the first quarter of 1982, 2,496 workers were sent to Russia on the two Russian freighters, the OBDORST and the DOUDINKA; the aircraft carrier MINSK and the destroyer DENSKOUCHT transported 3,200 workers and docked at the OKHOTSE Naval Base on March 26, 1982. Moreover, the Rügen, an East German liner, transported 820 Vietnamese to Eastern Europe. Thus, within only 3 months, the Socialist Regime has sent 6,600 innocent Vietnamese to work as slaves in Communist countries in order to pay for the debts incurred by the Le Duan's clique during their war of aggression against our beloved South Vietnam, as well as debts incurred by their invasion and occupation of neighboring Cambodia and Laos.

Also, in reference to your letter of March 12, 1982 regarding the coming Conference to Unite All Overseas Vietnamese to be held in Washington, D. C., please send me all materials relating to the policy and plan drafted by the organizing committee, so that we could prepare before coming to the U. S.

We are looking forward to seeing you in Washington, D.C. this coming July.

Yours truly,

Mrs. Le Hoang An



# HỘI TRANH ĐẤU CHO NHÂN QUYỀN TẠI V.N.

• ASSOCIATION POUR LA LUTTE DES DROITS DE L'HOMME AU VIET-NAM

*Siège social* : 6, Place Saint-Exupéry - 91000 EVRY (FRANCE)

Tél. : (6) 077 24 12 - (1) 372 69 81



EVRY, ngày 01 tháng 05 năm 1982.

—+—

Kính gửi:

Bà LÊ-THỊ-ANH

VIETNAMESE INFORMATION BUREAU

3105, Crest Avenue CHEVERLY

MARYLAND 20785.

Kính Chị,

Trong khoảng thời-gian từ 06 đến 27-4-1982, chúng tôi đã nhận được một số tin-tức đặc-biệt, phát-xuất từ trong nước, từ Thái-Lan và Trung quốc, liên quan đến vấn-đề ngụy quyền Hà-nội xuất-cảng Nhân-công Việt-Nam sang Liên-Xô và các quốc gia thuộc khối Varsovie. Tính đến cuối tháng 3/82 vừa qua tổng số công nhân VN bị cưỡng-bách đưa ra nước ngoài vào khoảng 16.000 người, riêng trong dịp nhất tam cá nguyệt của năm 82, hai tàu chở hàng của Nga mang tên OBDORST và DOUDINKA mang đi 2496 công nhân, đặc-biệt Hàng-không mẫu hạm MINSK và Trục lôi hạm DENSKOUCHT đã chở hơn 3200 người và sau đó cập bến quân-sự OKHOTSK ngày 26-3-82. Hơn thế nữa, một tàu đi biển của Đông Đức RÜGEN đưa sang Đông Âu 830 người. Như vậy, chỉ vốn-vẹn trong vòng 3 tháng, gần 6.600 dân lành Việt-Nam bị đưa đi làm nô-lệ các nước Cộng-sản theo chế-độ Xã-Hội Chủ nghĩa để trừ vào món nợ quân-sự mà tập đoàn Lê Duẩn vay mượn trong thời-gian gây chiến-tranh ở miền Nam thân-yêu của chúng ta, cũng như hiện đang tiếp tục xâm chiếm hai lân quốc Miên Lào.

Ngoài ra, tham chiếu vào lá thư của Chị đề ngày 12-3-1982, để có đủ yếu-Tố căn bản ngõ hầu sửa-soạn sang Hoa-Kỳ tham dự Đại Hội Thống Nhứt Người Việt Hải Ngoại do Chị khởi-xướng, nếu có-thể được, xin Chị gửi cho một số tài-liệu liên-quan đến các dự-thảo về chủ-trương, kế-hoạch của Ban Tổ-chức.

Chúng tôi hy-vọng sẽ gặp được Chị vào cuối tháng 7 năm nay tại Thủ-đô Hoa-Thịnh-Đốn.

Kính chào và chúc Chị thành-công.

Kính,

Bà LÊ-HOÀNG-ÂN

*Lê Hoàng Ân*



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Translated by Nguyen Hoa Descriptive Cataloging Processing Services  
name division department

Date 5/24/82

☒ Complete☐ Abstract—Please call the Congressional Research Service (426-5700), if a complete translation is desired.

Paris 18 January 1982.

Dear Uncle and Auntie:

A Vietnamese lady who just arrived here from Vietnam under the Family Reunification Program told me that she had met with DUNG when visiting her brother at the Reeducation Camp. According to her, DUNG told her that the detainees of this camp would all be sent to Siberia. I wrote you this letter to ask you to try your very best to get DUNG out of that camp. I am very worried for him. Lately, his health has not been very good.

We all wish you a very Happy New Year.

Paris le 13. 1. 82.

Chère Mère.

Cháu vừa được tin em Dũng nhận một người quen  
vừa tới Pháp bày cách đi du học tự gia đình - và hứa  
khi đi hồi tháng 11/81 bà ta có ra thăm mỗi  
người em hai cũng & một hai với em Dũng. Nên em  
có nhận bày nhờ là có tin họ sẽ gửi những  
người trong hai cái tạo đi Tây Ba Lộ Á. Cháu  
vừa nghe tin này với với ngay để câu mở liền  
mà lo gấp cho em Dũng ra khỏi hai cái  
sớm càng tốt. Cháu thấy rất là lo cho em, vậy  
câu mở ~~ở~~ nhỏ ai quen sức khỏe với này ngay đi  
à! Mời này sức khỏe em cũng không được tốt.

Nhân dịp sắp sang năm Nhân Tuất Cháu  
Cháu xin kính chúc câu mở cũng tốt cả cái  
em một năm mới nhiều sức khỏe. Nhiều niềm  
vui với được bay đi như ý.

Thích Huệ.

Hoàng



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Dalat 1 April 1982

Darling:

We have just received your package. The whole family is happy because this month we will have a little more rice to eat. For the last two months we have been eating rice mixed with potatoes or sometimes, just plain potatoes which we grow in our backyard. A determined amount of potatoes from our backyard has to be submitted to the Cooperative. The rest would last us for a few weeks. Some of the potatoes were ruined because I was unable to buy fertilizers and insecticides. Nevertheless, we are lucky to have potatoes to eat; otherwise we will have to eat oats distributed by the Party and the State.

Our daughter Lieu and our son Trinh are still in school because they are still in their young age. As to our son Tung, he has to quit school because he has reached the age to be drafted.

As you know, you were a village chief under the old regime which is considered by the present government as a bad element. And yet they allow him to continue his education until today. This proves that the government is very tolerant. Please try your best to have our son join with you in the United States, otherwise, I am afraid that his future will not be very bright. I need the amount of money I wrote you last time.

At present, the Government is conducting a census survey of youth and divide them into categories. Youth from 17 to 35 years of age are divided into category A and category B. Youth whose families are poor or who belong to families of revolutionaries would be in Category A and would do their military service in Cambodia. Belonging to Category B are youth whose families were connected with the old regime, and they would be sent as laborers to Russia. And I am sure that you know to which category our son would belong. I am very worried for him. Russia is so far away and so cold. If he has to go there to help the State pay the Russian government and people for the assistance they gave the State during the war against the U. S. imperialists, I really don't know when I would be able to see him again.

We all wish you good health. Please help our family. You said you had to work overtime. You must have been exhausted. I wish I could be with you so that I could take care of you. I don't know how much longer would destiny separate us like this.

Please write me soon.

Love,



Sátat, ngày 1 tháng 4 . 1952

Bình thường:

Được qua anh gọi về cả nhà đi mừng, tháng này nhà  
có thể có cơm ăn cả hơn hai tháng rồi, em và mấy con  
ăn cơm đơn khoai tây, có khi ăn toàn khoai, khoai tây  
trồng nhà; Sau khi sắp cho tập tác xã theo chủ trương  
đã định, còn lại thì mình giữ lấy mà ăn. Khoai  
còn cũng chỉ đủ ăn vài tuần, khoai nhỏ và xấu. Vì  
sống ăn vì em không mua được phân bón và thuốc  
sát trùng. Vì vậy có khoai cho con ăn cũng còn hơn  
đắng và nhà nước mình không phải ăn đồ ăn dơ bẩn  
đang và nhà nước mình không phải ăn đồ ăn dơ bẩn

Con em và tháng trình còn được đi học vì con bé còn  
thấp. Cũng thế năm nay đã tới thời nghĩa vụ nên không  
được học nữa. Tại mùa anh trước làm xã trưởng là thời  
phân ruộng, chính phủ gia ăn cho con mình học đến nay  
lũ này làm rồi. Anh em giúp phương tiện đi con có thể  
theo anh không thì ngày làm anh cũng biết rồi. Em còn có  
tiền như sau đây hơn trong thời trước.

Hình thành phân đảng hiện tại thành niên. Đây khoản sức  
khỏe và phân định thành phân và tư tưởng. Thành niên từ 17 đến  
25 tuổi được phân làm 2 loại A và B. Những thành niên thuộc  
gia đình bản cổ rỗng hay cách mạng được xếp vào hạng A và  
về đi làm nghĩa vụ quân sự. Còn B, còn những thành niên  
thuộc gia đình nguy hại thành phân, bất hảo thì sẽ đưa đi  
lao động khổ sở. Anh cũng biết còn thuộc loại nào rồi. Em lo  
ngày đêm không ăn ngủ được vì nghĩ về anh, anh đi  
làm nghĩa vụ quốc gia đi giúp cho nhà nước là bất cho cha  
mình và nhân dân xã, các khoản này còn thêm khi còn đánh  
vô nguy Song nếu đi thì bất học giờ em, còn thấy  
mặt con

Tham anh được biết khỏe là gia đình anh đi làm  
tìm nó như vậy có mặt làm không? Em mong được  
o gần anh để cơm nước cho anh, những - cơ -

[From the New York Times, Mar. 29, 1981]

## A LAMENT FOR VIETNAM

(By Doan Van Toai)

(A former South Vietnamese dissenter tells in a personal memoir of his disillusionment with the victorious Communists, his imprisonment at their hands, and the new tyranny that North Vietnam has brought to his country.)

When the Communists took over North Vietnam in 1954, a million refugees fled to the south. I personally heard stories of their incredible suffering. But, along with other South Vietnamese, I refused to believe them. A generation later, I could not believe Solhenitsyn's book "The Gulag Archipelago," either. I dismissed it as anti-Communist propaganda. But by 1979, I had published my own book, "The Vietnamese Gulag." Can those who have suffered the horror of Communism ever convince those who have not experienced it?

From 1945, when I was born in the village of Caivon in Vinh Long province, 100 miles south of Saigon, until I left Vietnam in May 1978, I never enjoyed peace. My family's house was burned three times in the war against the French. To escape the fighting, my parents moved from one village to another throughout my youth. Like the majority of Vietnamese patriots, they joined the resistance forces fighting the French. As I grew up, I myself saw how the peasants were oppressed by the local officials of the successive Saigon regimes, how they were victimized by the French bombardments. I learned the history of my country's thousand-year struggle against Chinese occupation and its century-long effort against Western domination. With this background, my compatriots and I grew up with a hatred of foreign intervention.

When the students at Saigon University elected me vice president of the Saigon Student Union in 1969 and 1970, I participated in the different peace efforts, leading student demonstrations against the Thieu regime and against American involvement. I published a magazine called Self-Determination, and traveled in January 1971 to California to give antiwar lectures at Berkeley and Stanford. For my activities, I was arrested and jailed many times by the Thieu Government.

During that period, I believed that I was fulfilling my commitment to peace and the independence of my country. I had faith, too, in the program of the National Liberation Front (N.L.F.), which led the revolutionary resistance in South Vietnam. I hated Saigon's rulers, men like Gen. Nguyen Van Thieu, Gen. Nguyen Cao Ky, Gen. Dang Van Quang—former soldiers of the French colonial army. These were men whom the French had recruited in the 1940's to help destroy the Vietnamese resistance. They had risen over the years to become leaders themselves, but they commanded no respect from the people. Because of their lack of popular support, they were predisposed to rely on foreign forces.

As a student leader, I felt I had to pursue the aspiration of the Vietnamese people for democracy, freedom and peace. Naively, I believed that the Hanoi regime at least had the virtue of being Vietnamese, while the Americans were foreign invaders like the French before them. Like others in the South Vietnamese opposition movements, I believed that our Communist compatriots in the North would be more amenable to compromise and easier to work with than the Americans. Moreover, I was hypnotized by the personal sacrifices and devotion the Communist leaders had demonstrated. Ton Duc Thang, former President an antiwar activist who was sentenced to 10 years in jail by the Thieu regime, then released after an outpouring of protest from Vietnamese and antiwar protesters around the world. Thien Minh died in Ham Tan prison after six months of detention in 1979. Another silent death was that of the lawyer Tran Van Tuyen, a leader of the opposition bloc in the Saigon Assembly under President Thieu. This well known activist died in Communist hands in 1976, although as late as April 1977, Prime Minister Pham Van Dong was telling French reporters that Tuyen was alive and well in a re-education camp. One of the greatest losses has been that of the famous Vietnamese philosopher Ho Huu Tuong. Tuong, a classmate of Jean-Paul Sartre's in Paris in the 1930's, was perhaps the leading intellectual in South Vietnam. He died in Ham Tan prison on June 26, 1980. These men were arrested, along with many others among the most prominent and respected South Vietnamese, in order to pre-empt any possible opposition to the Communists.

Some American supporters of Hanoi have ignored or rationalized these deaths, as they have the countless other tragedies that have befallen Vietnam since 1975. It is more than likely that they will continue to maintain their silence in order to avoid the profound disillusionment that accepting the truth about Vietnam means for them. Yet if liberty and democracy are worth struggling for in the Philippines, in

Chile, in South Korea or in South Africa, they are no less worth defending in Communist countries like Vietnam. Everyone remembers the numerous demonstrations protesting United States involvement in Vietnam and the war crimes of the Thieu regime. But some of those people who were then so passionately committed to democratic principles and human rights have developed a strange indifference now that these same principles are under assault in Communist Vietnam. For example, one antiwar activist, William Kunstler, refused to sign a May 1979 open letter to the Socialist Republic of Vietnam in which many former antiwar activists, including Joan Baez, protested Hanoi's violations of human rights. Kunstler said, "I don't believe in criticizing socialist governments publicly, even if there are human-rights violations," and, "The entire Baez campaign may be a C.I.A. plot." This statement reminds me of the argument used by the Thieu regime to suppress opposition: "The peace movements and the opposition activists are all the Communists lackeys."

There are other illusions about the current regime in Vietnam about which people should be disabused. Many people believed that Ho Chi Minh was primarily a nationalist and that the Vietnamese Communists were and are independent of the Soviet Union. I believed the same before they took over South Vietnam. But portraits of Soviet leaders now adorn public buildings, schools and administrative offices throughout "independent Vietnam." In contrast, one never saw pictures of American leaders even during the so-called puppet regime of President Thieu. The degree of subordination the present Government feels toward its Soviet patron is suggested by a famous poem by the well known Vietnamese poet To Huu, a member of the Politburo and president of the Communist Party Committee of Culture. Here we have an opportunity to listen to a highranking Vietnamese we, on the occasion of Stalin's death:

Oh, Stalin! Oh, Stalin!

The love I bear my father, my mother, my wife, myself

It's nothing beside the love I bear you,

Oh, Stalin! Oh, Stalin!

What remains of the earth and of the sky!

Now that you are dead.

It may seem incredible that such a poem could have been written in Vietnam, which is known for the strength of its family traditions and its feeling for filial piety. Yet this poem occupied a prominent place in a major anthology of contemporary Vietnamese poetry recently published in Hanoi.

Moreover, Le Duan, First Secretary of the Communist Party, said in his political report to the reunified National Assembly in 1976: "The Vietnamese revolution is to fulfill the internationalist duty and the international obligation," and to do so, in the words of the 1971 party platform, "under the leadership of the Soviet Union." The glorification of Soviet life is, in fact, a major goal of Communist Vietnam's censorship policy.

Immediately after the fall of Saigon, the Government closed all bookshops and theaters. All books published under the former regimes were confiscated or burned. Cultural literature was not exempt, including translations of Jean-Paul Sartre, Albert Camus and Dale Carnegie, Margaret Mitchell's "Gone With the Wind" was on the list of decadent literature as well. The new regime replaced such books with literature designed to indoctrinate children and adults with the idea that the "Soviet Union is a paradise of the socialist world."

Another argument made at times by Western apologists has to do with freedom of religion in Vietnam. One article in the new Constitution of Vietnam, adopted this year, declares that "the regime respects the liberty of the nonbelievers." In regard to this article, Le Duan has repeatedly proclaimed: "Our present regime is a million times more democratic than any other in the world." The reality, though, is suggested by an incident involving the desecration of a Buddhist pagoda, in which a nude woman, on orders from the Government, entered the pagoda during a worship service. When Thich Man Giac, a prominent Buddhist leader, protested, the Government used the opportunity to try to discredit the Buddhists as enemies of democracy—specifically, of the freedom to disbelieve. Thich Man Giac, who had served as liaison between the Buddhists and the Communist Government, escaped Vietnam by boat in 1977 and is now living in Los Angeles.

## FOREIGN REPORT

(Published by the Economist Newspaper Limited)

## "GUEST WORKERS" IN THE SOVIET UNION

The Secretary-general of Vietnam's Communist party, Le Duan, and the deputy prime minister, To Huu, visited Moscow last week. They met President Brezhnev and other Soviet leaders and discussed their growing economic difficulties, including the high cost of supporting an army of over 1 million men, one-fifth of them based in Cambodia. Vietnam is increasingly dependent on the Soviet Union.

Le Duan informed the Russians that the monthly food ration has dropped from 13 kilos of rice to eight kilos of rice, sweet potatoes or maize. For meat, 100 grams is the monthly norm. One kilo of meat of the black market costs about two weeks' wages.

Brezhnev promised Le Duan to increase Soviet economic support as well as military aid to Vietnam. Within the next five years the Russians will support 40 more industrial projects and will intensify oil exploration. The leaders may also have talked about a new means by which the Vietnamese government is planning to offset its massive debts to the Soviet block: the provision of large numbers of Vietnamese "guest workers".

Estimates of numbers vary, but authoritative east European sources say that up to 500,000 Vietnamese may work in eastern Europe between 1981 and 1985. Most are destined for the Soviet Union, where they will live in segregated communities with little contact with the local population. This scheme, quite separate from the training of party cadres, was hatched at the 34th session of the Communist world's trade grouping Comecon in Prague last year. The Vietnamese workers are due to receive 40 percent of their wages in local currency and the remaining 60 percent would be credited against Vietnam's trading debts with the Comecon countries.

Since the Vietnamese cannot afford to send skilled labour or technicians, the "guest workers" are unskilled labourers who are expected to work in remote development projects in Siberia and elsewhere. According to official Soviet statements, there were around 2 million unfilled job vacancies in the Soviet Union last November and Brezhnev has said that up to 400,000 additional workers will be needed in the next few years to develop new oil and gas fields in western Siberia.

This is the background for the Soviet and Vietnamese decision in July to sign an agreement "on the movement of citizens of Vietnam and the Soviet Union between the two countries". Scheduled air services from Hanoi to Prague began in June. A regular service from Hanoi to Sofia will start in October. Since some 15,000 Vietnamese are expected to travel to Bulgaria for periods of between three and five years from 1981 to 1985, the new air service can expect to be busy. There are already regular flights between Hanoi and Moscow.

The CoCom countries have struck a hard bargain but the Vietnamese had little choice. Indentured labour will help to offset the country's debts and reduce unemployment, which the chairman of the state planning commission, Nguyen Lam, admitted in February was around 1 million. The total external debt, according to previously unpublished Vietnamese government figures, is not \$3 billion, of which some \$1.4 billion is in convertible currencies and \$1.6 billion is non-convertible currencies like rubles. Debt servicing cost \$25 million in 1976 and has grown to about \$240 million this year. In 1980, debt servicing amounted to 57 percent of Vietnamese exports.

The Soviet Union pumps the equivalent of \$6 million a day into Vietnam's economy but it is tied to the provision of Soviet goods and services. Soviet wool arrives in Hanoi for the manufacture of carpets which are exported back to the Soviet Union. Russian influence over the Vietnamese economy is growing steadily.

## BANKROLLING THE SLAVE TRADE?

The Soviet gas pipeline deal with Western Europe is often portrayed by its proponents as nothing more than a marriage of convenience, matching Soviet energy with European cash. But now Sen. William Armstrong is calling for hearings on whether it may also marry Western capital to Soviet slave labor.

The possibility is by no means far-fetched. The Soviet Union already suffers from a severe labor shortage, which has hampered its construction plans, and the development of its Siberian gas fields will further tax its available labor pool. For instance, the pipeline planned for Western Europe is only one of six which will tap the Urengoi field in the harsh terrain of Northwest Siberia; the total length of the pipelines will be 20,000 kilometers, or about four times the width of the United



States. Where will the Soviet Union get the labor to complete such a mammoth project?

The Soviets, of course, have a long history of doing massive construction with concentration camp labor. The writings of Solzhenitsyn describe the barbarity involved. During the Stalin era, imprisoned intellectuals and other inmates were forced to build a wide variety of major construction projects from the Moscow-Volga Canal to the famed Moscow subway. One dissident now in the West has films of concentration camp laborers working on the Belomor Canal in the 1930s, and he also found bones buried along the waterway indicating where prisoners died on the spot.

These practices were no mere aberration confined to the Stalin years. The Brezhnev regime, too, employed concentration camp labor as recently as the late 1970s in building an extension of the Baikal Amur (BAM) Railway near the Chinese border. A defector from the MVD—the paramilitary police of the Soviet Ministry of Interior in charge of running Soviet concentration camps—has said that his regiment guarded about 200,000 inmates working on the railway; his regiment, moreover, was only one of six guarding laborers along the route, which gives some idea of the magnitude of prison labor used.

The suspicion is growing that the Soviets, finding their own Gulags insufficient to the present task, are going into the slave trade. The best-stocked Gulags in the world are currently those in Vietnam. And in recent months there have been repeated reports—by UPI, the Economist Foreign Report, L'Express and even China's People's Daily—of a deal to export Vietnamese workers to Siberia. The Vietnamese owe the Soviets some \$1.6 billion in war loans, and exporting labor is one way to repay them.

One of the most extensive reports on the worker-export program is an article written for these pages last March by Doan van Toai, now associated with the Fletcher School. He cited reports of plans to export some 500,000 Vietnamese to Siberia by 1985, and that most of them were being chosen from among those suspected of political disloyalty. Hanoi saves itself the cost of feeding half a million mouths and rids itself of dissidents, while the Soviets get cheap labor.

We cannot absolutely confirm that these Vietnamese are going to work on the Siberian gas pipeline, but Sen. Armstrong does have two letters from Vietnamese in "re-education camps" in the South telling of plans to send the inmates to Siberia on construction projects. Could that be the pipeline? The letters don't say. But given the Soviet Union's current labor shortage and its long history of using concentration camp labor, it is an obvious supposition.

Will there be moral protests in Europe's streets, we wonder, if it is learned that slaves are building the pipeline? How much will cheap Gulag-produced energy add to the cash flow of European businesses? Will the Europeans sleep better knowing their homes are heated by gas arriving thanks to Vietnamese chain gangs? Will the lenders take the attitude expressed during the Polish crisis by Thomas Theobald? "Who knows which political system works?" the Citibank international head said. "The only test we care about is: Can they pay their bills?"

These questions are certainly worth asking in Senate hearings, especially since American cooperation is still needed to expedite the pipeline project. Four European concerns are making compressor turbines for the project under licenses from General Electric, and at least three of them will need explicit export approvals from the U.S. Department of Commerce. Sen. Armstrong and Sen. Jake Garn plan to introduce a sense of the Senate resolution urging President Reagan to do all in his power to stop the deal.

So far the administration has been reluctant to do anything serious to impede the European plans. But surely there is some limit to cynicism. Is Europe, with tacit approval from the Reagan White House, now about to tap Western capital markets in order to bankroll the slave trade?

Senator ARMSTRONG. I can't gage their validity, but we're hearing it from enough different places and persons of presumed credibility that there is such a plan, that aside from the strategic and economic aspects, it appears to me that if we permit this thing to go forward, there is a question of what kind of burden of conscience we have if we go forward with something that involves, for heaven's sake, a half million people in what amounts to slave labor or quasi-slave labor conditions.

Mr. BRADY. Well, I have to tell you that my office has been very, very concerned about those kind of reports, particularly because

they have also been generated in terms of Polish Solidarity workers being sent off to Siberia to work on the pipeline. And that would be, as you can imagine, exceedingly disturbing.

But, as you yourself say, it's very difficult to verify that kind of thing.

Senator ARMSTRONG. Well, the information we have about the Vietnam would indicate that these are not merely people chosen at random from Vietnam, but, in fact, they are from the so-called dissident elements within what was formerly known as South Vietnam.

Mr. Brady, I thank you for your testimony and your forthcoming responses. The Chairman has tactfully, but firmly, pointed out that my time has expired.

Mr. BRADY. Thank you, Senator.

Senator HEINZ. Mr. Brady, thank you very much for being a very helpful witness. I thought your exchange with Senator Armstrong was extremely valuable. I think that the Senator from Colorado has performed a very valuable service to the committee and to the Nation by raising the issues he did, and I was glad that he did take a few extra minutes.

Senator ARMSTRONG. Thank you, Mr. Chairman.

Mr. BRADY. Thank you, Mr. Chairman.

Senator HEINZ. Our next witness is Mr. Ernest B. Johnston, Deputy Assistant Secretary for Economic and Business Affairs of the U.S. Department of State.

**STATEMENT OF ERNEST B. JOHNSTON, DEPUTY ASSISTANT SECRETARY FOR ECONOMIC AND BUSINESS AFFAIRS, DEPARTMENT OF STATE**

Mr. JOHNSTON. Thank you, Mr. Chairman. I have a relatively short statement and I will try to abridge it even further.

This administration is vigorously pursuing efforts to reduce the transfer to the Soviet Union and its Warsaw Pact allies of militarily significant technology. I appreciate the opportunity to talk with you about that today. You had several particular questions that you posed in the letter that you sent to the State Department.

As has been brought out earlier, the effort that the United States makes with its allies to coordinate national controls on the export of strategic items is through CoCom, first formed in 1949. The current membership of that organization is the same as NATO, except that Iceland is not a member, while Japan is. However, CoCom has no formal relationship to NATO, nor to any other organization. It was created by an informal agreement of its members. It is not based on any formal treaty or executive agreement.

The members, therefore, have no legal obligation to participate in it, nor to abide by the commitments made by it. However, over three decades of its existence, there have been only a few instances when a member country has exercised its sovereign right to deviate from a CoCom decision. All of the important decisions are made on the basis of unanimity. No change is made in the list and no case is approved if any member objects.

## EFFECTIVENESS OF COCOM

Traditionally, CoCom has had three major functions: The first is the establishment and updating of lists of embargoed products and technology. Second, CoCom acts as a clearinghouse for requests submitted by member governments to ship specific items to specified end-users in the proscribed countries, which, as you know, are the Soviet Union, the East European countries, the People's Republic of China, and other Asian communist countries. Third, CoCom serves as a means of coordinating the administration and enforcement activities of the member governments.

During the past year, the administration has been reviewing the overall problem of technology transfer to the Soviet Union and to other Warsaw Pact countries. As part of that review, we have taken a hard look at the effectiveness of the organization. We feel that the national controls coordinated through CoCom have been reasonably effective in restricting proposed exports for which license applications have been reviewed by the CoCom member countries. Without CoCom, competition among Western exporters would have escalated the quality and the quantity of technology sales to the Soviet Union and other communist countries.

On the other hand, the Soviet Union and other Warsaw Pact countries have obtained equipment and technology of strategic and military importance from the West, either through violations of controls or because some items are not currently controlled.

The administration has initiated efforts to block these holes in the multilateral export control system. As previous witnesses have testified, we think that there is a general consensus that came out of the recent CoCom high level meeting that the member governments will work together to improve CoCom effectiveness. We have been encouraged by the attitude of the other governments.

We feel that this high-level meeting laid a solid basis for revitalization of the CoCom system. However, that kind of revitalization is going to take work and it is going to take time. It depends on the national administration of controls by 15 individual governments. Effectiveness requires precise definitions of many complex technologies. We'll be able to assess the impact of the high level meeting more fully as we work through these details.

Since the meeting, we have made considerable progress in CoCom discussions toward reaching full agreement on a number of proposals to tighten the embargo. The other governments have also agreed to a special meeting this spring to address problems of enforcement and harmonization of national licensing procedures. In attempting to strengthen strategic controls on exports to the Soviet Union and other Warsaw Pact countries, we are faced with the perennial problem of getting agreement with all other CoCom allies on just where to draw the embargo line. Determining in many scores of different technical areas what is of sufficient strategic importance to warrant control is not an easy job. The purpose of the organization is to address only militarily critical technologies.

Therefore, the members exercise great care to avoid controls whose principal impact would be economic rather than military. Each member has its own perspective on that point. Western European and Japanese economies would be affected more than the

U.S. economy by sweeping controls on manufactured products. However, the differences between us and our CoCom allies should not be overemphasized. We share a common belief that such controls constitute an important element in our mutual defense.

There are substantial differences in the administration of export controls by CoCom member governments. Differing laws, regulations, and procedures used to comply with CoCom agreements sometimes result in competitive inequities or in leaks in the controls. We have initiated work to harmonize these practices in order to minimize this sort of difference.

One of the problem areas relates to CoCom rules which permit the shipment of certain types of embargoed products to civil end-users in proscribed countries at the national discretion of CoCom government. Differing views of what constitutes an acceptable end-user or an appropriate end-use can lead to different applications of the embargo by individual governments.

Generally, stricter application of these rules by the U.S. Government sometimes gives foreign competitors a commercial advantage over U.S. firms. We are trying to reduce this problem by decreasing the scope of national discretion and by harmonizing the review procedures. We also want people who have direct knowledge of military applications to be more involved in this process.

#### EXPORTS FROM THIRD COUNTRIES

One of the more serious problems is in the field of controls on exports through or directly from third countries. In some industrial areas, CoCom countries do not monopolize the market for high technology items, and the communist countries are able to obtain such products from non-CoCom sources. There is also a risk of diversion through third countries of products made in CoCom member countries. The United States attempts to deal with the latter problem by requiring licenses for reexports of U.S.-origin embargoed products from third countries. We are encouraging our CoCom allies to institute similar measures.

A number of third countries cooperate through the issuance of certificates to exporting CoCom countries, assuring that specific shipments of embargoed products will not be re-exported without the authorization of the country of origin. In most third countries, importing firms provide similar assurances on request.

We in the administration feel that the high level CoCom meeting has confirmed the determination of all of the CoCom member governments to make the multilateral system work more effectively. We are now attempting to translate that determination into concrete improvements. We feel that the cooperation of our allies is making it possible to take constructive steps to remedy some of the more serious deficiencies.

Thank you, Mr. Chairman.

Senator HEINZ. Thank you. I gather what you're saying is that everything is fine in CoCom.

Mr. JOHNSTON. No, I don't think I'm trying to say that. What I am trying to say is that as a result of the emphasis which this administration has put on export controls, and as a result of what the Soviet Union itself has done, both in Afghanistan and Poland,



we've got a much stronger recognition of the necessity for technology controls amongst our allies.

Senator HEINZ. I wonder, being the devil's advocate for a moment, whether export controls are really going to work. In terms of the total volume of Western high technology exports to the Soviet Union, we're a very small player. There's a Rand report authored by Thane Gustavsen. Are you familiar with that?

Mr. JOHNSTON. No.

Senator HEINZ. That report noted that in 1979, U.S. high technology exports to the USSR amounted to \$183 million, or about 1/10th the level of Soviet imports of advanced machinery and equipment from just three countries—West Germany, France, and Japan—combined. The report went on to state what I suppose we already know, that our NATO allies have been traditionally reluctant to comply in export controls to the USSR, and the countries which are rather well developed, like Austria, Sweden, Switzerland, are unlikely to cooperate at all.

Switzerland has some tremendous technology, but they're not a part of CoCom, are they?

Mr. JOHNSTON. No, they're not.

Senator HEINZ. They have a company which I visited called the L'Associative des Instruments Physiques, which makes some of the most amazing and highly technologically advanced equipment in the world; is that not so?

Mr. JOHNSTON. I don't know the company, Senator.

Senator HEINZ. Well, the obvious question really is no matter how successful you think we are, being with CoCom, can we really, through export controls, be as effective as we would like to be, even come close? Can we be effective at all?

Mr. JOHNSTON. So far as relative statistics are concerned, I think in the last year we must have shipped something short of \$2 billion worth of goods to the Soviet Union in total. About three-quarters of that was agricultural goods.

The European NATO members must have shipped something like \$15 billion worth of goods to the Soviet Union in the same period. I'm not precisely sure of the figure. Most of their goods, except for some agricultural goods that go from France, are manufactured goods.

So the bias is certainly more in regard to their shipment of manufactured goods than it is for the United States. The question is: what is the alternative? It seems to me if we are trying to keep a technological superiority over the Soviet Union, then we have no alternative except to resort to export controls. And we have no expectation that those export controls can be effective unless they take place on a multinational basis.

The United States, by itself, cannot stop the movement of technology to the Soviet Union. So, consequently, it seems to me that it's pretty important to us that we have a multilateral effort on the shipment of technology.

Senator HEINZ. Well, what you're saying is the only alternative really is CoCom, and that may be true. But other than negotiations and a consensus in CoCom, that's the basis on which it's traditionally acted, is there any ways that we should go beyond just negotia-

tions to bring pressure on our allies to have a greater commitment, a more wide ranging CoCom policy, than we have today?

Mr. JOHNSTON. Senator, my own feeling is that negotiations offer a better prospect than threat, in something like this where we need the cooperation of countries if we actually expect to slow down the movement of technology.

Senator HEINZ. Well, you know, how many troops do we have in NATO?

Mr. JOHNSTON. I don't know exactly. I think we've got something like 300,000.

Senator HEINZ. 280,000.

Mr. JOHNSTON. Yes.

Senator HEINZ. Here our NATO allies benefit, not only from the famous nuclear umbrella which we maintain at some considerable expense, both on land, in the air, and on the sea at all times, the Triad, but we have 280,000 Americans stationed over there. We protect their oil in the Persian Gulf. We're building ourselves a rapid deployment force so that we can sail right up to the mouth of the gulf and do all kinds of things. We are defending the Europeans against the Warsaw Pact to a very substantial degree.

And you're saying, as I understand it, that we should just continue to do that, we shouldn't use that as leverage. All these things that we're doing shouldn't bear in any respect—the Europeans may advertently or inadvertently want to damage our national security by selling vital technology to the Soviets.

Mr. JOHNSTON. Senator, I think that there's a good bit of self-interest in the U.S. policy in regard to maintaining troops in Europe. The size of the economy in Western Europe is just about the same size—

Senator HEINZ. There's a good deal more interest on the part of the Europeans.

Mr. JOHNSTON. They have a definite interest in it, too. There's no question.

Senator HEINZ. I would think so.

Mr. JOHNSTON. We've got an economy in the United States which is about the same size as the economy in Europe. The economy of the Soviet Union is about half of either of those. We feel that it's important that we keep the alliance in good shape. And I really wonder if trying to cause a split in the alliance on the basis of withdrawing troops would be of sufficient benefit to the United States to cover whatever effect we might have on technology. I'm not at all sure that we would have an effect that would be sufficiently significant to justify that kind of move.

Senator HEINZ. Well, how do you, when you negotiate with our European allies, suggest that they—how do you get across the point to them that maybe some of the things that they're doing are not in the best interests of the NATO alliance, like it's strengthening the very people, the Warsaw Pact, that NATO was created to oppose?

Mr. JOHNSTON. We've got a rational argument. I think that when we try to show that the technological superiority that exists in the West is one of the strongest instruments that we have, there is realization that we are not just talking through our hats. And my

belief is that showing that we are engaged in a rational course is something which has an effect on the Europeans.

I think that we have had some of that effect as we went through that high level meeting in CoCom.

Senator HEINZ. Have you discussed and have you pressed the Europeans on putting credit controls on the Soviet Union?

Mr. JOHNSTON. We have been discussing that with them, yes.

Senator HEINZ. What position have we taken?

Mr. JOHNSTON. I don't want to get into it in a public hearing in detail, but we have explained to them that we think that it's irrational for the taxpayers in the West to be granting subsidies on credits that are going to the Soviet Union. We think it's irrational that credit guarantees should be used this way by government. We think that this should be severely limited, and we would like to see them do that.

Senator HEINZ. Mr. Johnston, in the interest of time, I'm going to submit a number of other questions to you for written response.

Mr. JOHNSTON. Yes, sir.

[Answer to subsequent questions received from Senators Garn and Heinz follows:]



## DEPARTMENT OF STATE

Washington, D. C. 20520

MAY 28 1982

Dear Mr. Chairman:

Please find enclosed the Department's responses to the questions concerning COCOM stemming from the April 14 hearing which you submitted to Deputy Assistant Secretary Ernest Johnston, as requested in Mr. Freedenberg's May 4 letter. As requested, the originals have been sent to Mr. Ed Dicks.

With cordial regards,

Sincerely yours,

A handwritten signature in cursive script that reads "Powell A. Moore".

Powell A. Moore  
Assistant Secretary  
for Congressional Relations

Enclosure: as stated.

The Honorable  
Jake Garn, Chairman,  
Committee on Banking, Housing and Urban Affairs,  
United States Senate.



SENATOR GARN

1. Q. What are the prospects for obtaining export control cooperation from countries such as Sweden, Switzerland, and Austria?

A. We maintain an on-going dialogue with Sweden, Switzerland and Austria concerning export control issues of mutual interest. Austria now participates in the Import Certificate/Delivery Verification scheme to protect strategic exports from diversion in transit. Switzerland administers a similar program and issues Swiss Blue Import Certificates for strategic imports from the United States. Switzerland requires a reexport permit for any item imported under a Swiss Blue Certificate.

Importers in all three countries cooperate with conditions on U.S. export licenses concerning the need for a further U.S. authorization for any reexport.

2. Q. What is the attitude of Greece toward export controls?

A. Greece is a member of COCOM and maintains controls on the export of COCOM-listed items.

3. Q. The Departments of State and Commerce submitted a letter to Congressman Bingham in which they declared that State Department personnel will carry out all export control functions where FCS personnel do not do so. What training do State Department employees on these posts receive in administering export controls? How many days of training, on average, are involved?

- A. State Department personnel normally receive several months' training upon entry into the Department and periodic training thereafter. This training prepares them for the broad scope of their expected duties and is particularly helpful to economic defense officers (EDO's) who need to know how to go about resolving operational export control problems in a complex political and jurisdictional environment. Officers being assigned to economic and commercial positions which involve economic defense activities normally spend a week or two in Washington consultations which includes meetings with export control officials in Commerce and State. On arrival overseas, they receive on-the-job training; economic defense and related Foreign Service skills are transferred from one officer to another at the post. Economic defense work is usually carried out pursuant to detailed instructions from Washington. The Department has recently initiated a review of the training of USG representatives involved in technology issues abroad with an eye to identifying areas where improvements may be necessary.
4. Q. The intelligence community is united in its rejection of end-use guarantees as an effective component of export controls. If the Soviets are willing to steal the technology that they want, there is little doubt that they are going to divert desired technology once it is within their borders. What sanctions have been employed when diversion has been detected? Are there any efforts underway in COCOM to eliminate end-use statements as a part of export controls?

A. End-use statements are not relied upon to provide assurances against retransfers of technical data within the importing country. In the case of dual-use commodities, end-use statements cannot guarantee that there will be no diversion but they can assist in making judgments as to the likelihood of diversion. Such statements are never regarded as an adequate basis for licensing in the absence of other reassuring circumstances. Other more important factors limiting the risk of diversion include (1) only marginal inherent strategic uses, (2) reasonable stated civil end-use, (3) stated use of high priority to the civil economy, and (4) requirement for full utilization of the equipment for the stated use. Where such factors plus an end-use statement signed by the the ultimate consignee are present, the risk of diversion may be sufficiently low to warrant permitting the benefits of exports. Instances of detected unauthorized diversions of exports licensed for exports to Communist countries are rare. Most Western commodities used by Communist countries for unauthorized purposes are not licensed for export to those countries for any use. When diversion of either type is detected the Export Administration Act of 1979 authorizes both criminal and administrative sanctions. Jurisdiction is usually not available for

criminal action. Possible administrative actions include fines and denial orders to cut off further exports from the United States to the denied party. There are no efforts underway in COCOM to eliminate end-use statements as a part of export controls. CIA and DIA have reviewed and concur in this response.

5. Q. It is my understanding that an exporter, when selling goods on the COCOM list to other COCOM countries, must get a letter assuring that they will not re-export the goods without proper licensing. If the foreign purchaser decided to re-export the goods anyway, is there any way other than through government-to-government contacts that we can reach the foreign exporter? And of what value, then, is the letter of assurance, if we are not able to reach them?
- A. The letter of assurance, or as it is officially known, the Statement by Ultimate Consignee and Purchaser, represents a direct undertaking by a foreign importer to the United States Government. It insures that the ultimate consignee recognizes that a U.S. license is required for a reexport. The need for an Ultimate Consignee Statement is waived upon presentation of an Import Certificate. An Import Certificate is required in support of any validated license application covering COCOM-controlled items for consignees in any COCOM-member country. The Import Certificate involves an undertaking by the consignee that he will seek authorization from the Government of the importing country before reexporting the covered item. In addition to that authorization, a U.S.



reexport license is also required except in cases where the export is unanimously agreed in COCOM. Failure to obtain a reexport license prior to reexport can result in administrative action being taken against offending consignees, such as fines and the denial of further export privileges of receiving exports from the United States. We are presently discussing with our Allies the strengthening of the Import Certificate System.

6. Q. There are some 33 items not on the COCOM list, unilaterally controlled by the United States. Can you tell me why we are controlling them, and why our allies refuse to go along? Are these going to Communist Bloc countries?
- A. The rationale for unilateral controls of strategic items is either that the equipment is not available from sources outside the United States or that our efforts to add these items to the COCOM list are continuing but have not yet been successful. These items are not being licensed for export from the U.S. to the USSR or Poland and are subject to rigorous review for export from the U.S. to other Communist countries. Some of these items which are manufactured abroad may, of course, be going to Communist countries from other Western countries, because they are not yet subject to controls on exports from those countries.

7. Q. We know that the Soviet Bloc has long made a practice of obtaining Western technology through cultural and scientific exchange programs. What are the advantages to the U.S. of such programs?
- A. Bilateral exchange programs in the fields of cultural relations, science and technology between the U.S. and the USSR and its allies call for mutual benefit, equality and reciprocity. Exchange programs are reviewed on an inter-departmental basis for reciprocity and adverse technology loss, and those programs which would result in unacceptable technology transfer from the US are disapproved or altered. Studies conducted on these exchange programs have found no evidence that sensitive technologies have been transferred; they have also found that reciprocity has been maintained. Most importantly though, these exchange programs allow U.S. scientists and officials access to Soviet science institutions, which would otherwise be closed, and provide the U.S. Government with leverage to secure a consistent, meaningful pattern of reciprocity.

Activity under the Soviet programs has been significantly reduced in reaction to the invasion of Afghanistan and, more recently, its involvement in the imposition of martial law in Poland. Also in light of the attitude recently adopted by the Polish martial law regime toward American scientific visitors, we have found it necessary to suspend travel by participants in ongoing, jointly funded research activities until the matter can be carefully reviewed and the Polish Government's attitude clarified.

SENATOR HEINZ

1. Q. By what date will we be able to measure the success or failure of the current efforts to enhance COCOM?

A. There is no set date by which COCOM will complete its efforts to improve strategic export controls.

Technology is dynamic and controls must be continually updated. However, one reasonable time for taking stock would be when the List Review scheduled to begin in October will be concluded, probably in late 1983. We are now in the process of developing many proposals to tighten the embargo for consideration during that List Review. We are also making strenuous efforts to strengthen controls on high priority items in advance of the List Review schedule and to strengthen enforcement and administrative procedures with a minimum of delay.

2. Q. If the Administration is currently trying to strengthen COCOM, that indicates that COCOM has not been living up to our expectations as a multilateral export control organization. What have been its major shortcomings? Do we expect those problems to be cleared up by increased U.S. pressure and concern?

Are there major attitudinal differences on high technology trade which separate us from our major allies? Can we realistically expect attitudinal changes in response to U.S. pressure and concern?

A. COCOM's major shortcomings have been inadequate enforcement of agreed controls and the omission from agreed controls of some strategic items. These problems will never be totally cleared up. Cooperative and constructive action, not only by the United States but also by our COCOM Allies, is expected to

lead to substantial improvements. There are no major attitudinal differences which separate the United States from its Allies concerning the need to restrict the transfer of strategic technology. There are, of course, differences of judgment concerning the content and administration of controls. These differences can be reduced through detailed research and analysis precisely identifying what is militarily critical, what Soviet deficiencies exist, and what enforcement and administrative improvements are needed. Clear evidence of U.S. pressure and concern aimed at furthering this research and analysis will help.

3. Q. Is there any chance whatsoever that our allies will agree to put controls on credit to the Soviet Union, or put political conditions on further extensions of credit?

A. Yes. Controls on credits can be fully justified on economic grounds alone in addition to non-economic international factors which may also point at constraint. In this context it should be noted that private banking sectors are attempting to limit their credit risks in the Soviet Union.

4. Q. Are efforts being made to include Spain in COCOM, now that it has joined NATO?

A. We would welcome Spain's membership in COCOM and, once Spain becomes a member of NATO, we will be discussing the details of membership in that organization with Spanish officials.



## EXPORTS TO IRAQ

Senator HEINZ. There is a question that I was reminded of today when I read in the Washington Post this morning that the administration is planning to grant a license to Lockheed to sell six L-100 airplanes to Iraq. Now I know that under section 12(c) of the Export Administration Act, you can't divulge the details of licensing decisions, but there is something that you can talk to us about, which is you could give me a quick review of the factual reasoning behind taking Iraq off the list of countries supporting international terrorism, as specified in section 6(i) of the Export Administration Act.

For your background, up until February 26, our policy was that Iraq, being a supporter of numerous terrorist organizations, as it still is today, was supporting, aiding, and abetting terrorism. Then it was announced on February 26 that it was not. And all of the information available, both public and on a confidential basis, suggests that there is absolutely minimal basis, if any, for that shift in categorization of Iraq.

What is your understanding of that shift?

Mr. JOHNSTON. Well, we have been looking at the evidence on Iraq for some time. And we felt that in 1981, Iraq had continued the pattern of reducing its assistance to individuals and groups that employed terrorism. They have reduced or terminated financial and other forms of support for certain radical Arab factions. They have reduced their relationship with non-Arab extremist groups which employ terrorism. This has involved the movement or expulsion of members of some of these factions out of Iraq. This has been particularly evident in the case of groups which sought to undermine more conservative Arab regimes and it paralleled Baghdad's move toward closer relations with the more moderate Arab neighbors in the West in recent years.

We think that we have a major interest in encouraging Iraq to take further steps in this direction. We gave a classified briefing on this to Senator Boschwitz in his subcommittee. We would be happy to do that with you. And I think that we had some conversations with members of your staff just yesterday on this.

Senator HEINZ. Yes; that is correct.

Mr. JOHNSTON. In other words we have seen some movement. The movement was sufficient for us to believe that we should encourage further movement by taking Iraq off the terrorist list. If this movement should not continue, then we can put Iraq back on the list.

Senator HEINZ. Without getting into classified information or the details, the act is, I think, rather clear on the issue. And if you don't like the act, you might want to get it changed. But the act simply says this: That the section is invoked if a country has repeatedly provided support for acts of international terrorism.

It doesn't say anything about cutting its support by a third or 50 percent and I think we all know that Iraq is still, repeatedly, persistently, every month supporting a number of terrorist organizations.

Mr. JOHNSTON. Well, Senator, the act says that the Secretary of State is to notify the committee before a license is approved for the

export of certain goods to a country which the Secretary has determined has repeatedly provided support for acts of international terrorism. And, in essence, what the Secretary has said is that he doesn't think that Iraq should continue to be subject to this requirement.

Senator HEINZ. Yes. And the test is "such country has repeatedly provided support for acts of international terrorism." In other words, the Secretary has to make a finding that that country is not repeatedly providing support for acts of international terrorism.

Is that the finding that the Secretary has made?

Mr. JOHNSTON. The finding of the Secretary is that there has been sufficient change in regard to Iraq's policy to justify a determination——

Senator HEINZ. I think that proves the point. I don't think that the Secretary's judgment is in conformity with the act. I really don't. What he has determined may be accurate, but it doesn't meet the test of the act, if I may say so.

Mr. JOHNSTON. Well, if you use the thing perfectly in the past tense, which is the way it is, in essence, I presume that you could never take any country off the list. You've got to take into account——

Senator HEINZ. Not as long as it is repeatedly supporting acts of terrorism. That is correct.

Mr. JOHNSTON. But the point is——

Senator HEINZ. It's written that way.

Mr. JOHNSTON. We are trying to ~~take into account~~ the current actions of the government. Now the law is phrased in the past tense. If you take that literally, it means that once somebody has supported something, they stay on the list forever. And we don't think that that is a reasonable proposition.

Senator HEINZ. That's not what it means and you know that's not what it means. It means that if they have decided to reform, we watch. We don't take their word that they're going to reform. Talk is cheap. Talk costs absolutely nothing. It means that if for 6 months they stop supporting Black September, they stopped supporting the PLC, they have stopped supporting some of the other far out groups that they have been and are supporting, then you know that they have changed their behavior and the past tense applies to those 6 months or 1 year, whatever length the period. Now that description, of course, does not fit the facts, and you know that and I think we're going to end up wasting valuable time if we continue on this. You've got your point of view, I've got mine. We've expressed them. The facts are there for all to see. You've just got a very different interpretation of the law than what the law states.

Mr. JOHNSTON. Senator, we did not take Iraq's word at all. What we looked at was a diminution of support for terrorist organizations. That was the reason for the action.

Senator HEINZ. I understand what you looked for and I understand that you found some diminution. I'm not even going to quarrel with that. I'm just saying that that's not what the act says you look for. I suggest that you get a lawyer and look at the act.

Mr. JOHNSTON. We did have a lawyer look at it.

Senator HEINZ. Then you'd better get a new one. [Laughter.]

I hope the one that looked at it isn't you. [Laughter.]

Mr. JOHNSTON. I wish I could qualify, Senator.

Senator HEINZ. Senator Armstrong?

Senator ARMSTRONG. Mr. Chairman, I mostly want to talk about the pipeline and the Polish loan, but I can't resist asking two questions related to the line of inquiry that you were just pursuing. How many countries remain on the terrorist list?

Mr. JOHNSTON. There are three countries that remain on the terrorist list.

Senator ARMSTRONG. Libya.

Mr. JOHNSTON. Libya, South Yemen, and Syria. Pardon me, and we added Cuba to the list with the recent action.

Senator ARMSTRONG. Only four countries, then, in the whole world are on that list?

Mr. JOHNSTON. Right.

Senator ARMSTRONG. Just out of curiosity and, of course, don't feel obligated to tell me if this is something that I'm not supposed to know, but did Iraq ask to be taken off the list or did we just do it on our own?

Mr. JOHNSTON. I don't think that there was any request by Iraq.

Senator ARMSTRONG. We just did it from our own observation.

Mr. JOHNSTON. That's right.

Senator ARMSTRONG. Last year, President Reagan indicated his opposition and that of the United States to the construction of the Yamal pipeline. Does the State Department intend to raise that pipeline issue again at the Versailles summit in June?

Mr. JOHNSTON. We intend to be discussing the whole question of energy security. The question is the degree of European dependence on Soviet gas or Soviet oil. As you know, they ship a good bit more oil now than they do gas. Now we have been bothered because we think that having European dependence on the Soviet Union for gas is even more dangerous than having Soviet dependence for oil, because with oil, if somebody cuts off the shipment, all you have to do is find yourself another ship with somebody else's oil and you can load it at a dock.

On the other hand, with a gas pipeline, if it's connected, particularly if it's connected to houses, you don't have the opportunity of shifting sources the same way.

So, consequently, we have been disturbed that this gives a certain amount of leverage to the Soviet Union over Western Europe. Now the Europeans, of course, come back and give us a different argument. They say, "We are far more dependent than the United States is on a very unstable section of the world, the Persian Gulf. When we get through with this gas pipeline, we will still be dependent for only 5 percent of our total energy on the Soviet Union. And we think, in view of the risks involved in the Persian Gulf, that diversifying our source of supply is a sensible thing for us to do."

Now we don't concur in that analysis.

#### DELAY CONSTRUCTION OF PIPELINE

Senator ARMSTRONG. What steps, if any, is the State Department then going to take to prevent General Electric and its overseas subsidiaries and licensees from supplying the technology which, ac-

according to testimony a moment ago from Mr. Brady, is necessary to complete the construction of the pipeline?

Mr. JOHNSTON. I didn't think he said it was necessary. I think what he said was to avoid a delay.

Senator ARMSTRONG. I stand corrected. I think that that is correct. He qualified his answer to say that it might not prevent the completion of it, but it would at least delay it.

Mr. JOHNSTON. Our own feeling is that the pipeline doesn't have any chance of being finished on time, no matter what. The whole question of laying the pipe was supposed to be completed by 1985. We are very dubious that they will get it finished by that time.

On the question of exercising extra-territorial aspects of U.S. law, you went into the legalities of it with Mr. Brady. I think the main thing that I would like to say is that there is a strong resentment in Europe about U.S. exercise of extra-territorial controls, and there is a strong possibility that, even if we tried to do that under American law, other countries would not recognize it. And that's something that has to be taken into account.

Senator ARMSTRONG. Of course, the real issue is not whether or not France would recognize it, but whether or not the French licensee of General Electric Co. would recognize it. And that's a bit different issue. It seems to me if there is doubt about that, that is a matter that we could determine by exercising that prerogative, if we think it's a good policy.

I understand the line of reasoning that says that maybe threatening to do it is worse than doing it, but we'll never really know unless we forbid it. I gather that if we get right down to it, we do retain that option of simply forbidding it and then see whether that's honored or not.

Mr. JOHNSTON. That's true. We've had an experience with France on that sometime back where we exercised some extra-territorial aspects of U.S. law and the French Government stepped in and seized the company.

Senator ARMSTRONG. It certainly raises the question of whether or not we ought to be in the business of licensing sensitive technologies to a company that is unwilling to abide by that, doesn't it?

Mr. JOHNSTON. Senator, when that technology left the United States, it was not on a control list. It was not in the category of sensitive technology. Had it been sensitive technology, I don't think that there would be any question whatsoever. When we license something, we insist on a re-export permit so far as the goods are concerned that are made with that kind of technology.

This technology didn't go to France on that basis.

Senator ARMSTRONG. I understand that, and it's not my purpose, by the way, to criticize the State Department and I don't want to be misunderstood. But there are a lot of us that are quite impatient with our NATO allies, including France, and most especially including France, for the reasons that Senator Heinz has mentioned and for other reasons that aren't really germane to this hearing. But a lot of us have just really had a belly-full of the people that we have been protecting being so uncooperative at crucial moments.



I am going to carefully avoid the impulse to say what I think we ought to do until I have had a chance to reflect. But I guess it's pretty clear that I'm edging in the direction of decisive action.

Mr. JOHNSTON. I hope that your decisive action would have some effect.

Senator ARMSTRONG. I hope so, too. But instinctively, I think it's better to know than not to know. We've got stuff licensed all over the world. We've got the Japanese building aircraft, for example, that are as good or better than the best that we build in the United States, under license. And if there's some doubt about whether or not they would be free to sell those jet aircraft to various places—

Mr. JOHNSTON. Well, Senator, let's be clear on this. If somebody is building an American aircraft under license from the United States, my guess is, without even knowing what the aircraft is, that it's being built on the basis of a license which allowed technology to go out of this country. It was a technology that required a license before it got out of this country.

In that case, we demand re-export licenses in order for the products to go out. I think that that's a fairly important point.

Senator ARMSTRONG. I think it's a very important distinction and you made that clearly when you pointed out the technology in question in the French licensee of General Electric was not on that list at that time. I do accept that and I recognize that.

#### RESCHEDULING THE POLISH DEBT

Could we turn now to the question of the loans? As I recall it, it was the position of the United States at the NATO Foreign Ministers Meeting that the United States would prohibit U.S. financial institutions from taking part in any discussions pertaining to the rescheduling of the Polish debt as long as Poland was still governed under martial law. What steps are we taking to enforce this position and what steps do we plan to take to discourage U.S. banks from participating in discussions pertaining to the rescheduling of the 1982 Polish debt?

Mr. JOHNSTON. Senator, I really don't think you're right on what you are quoting from NATO. I think we came out of the NATO meeting with an agreement that under the current circumstances, the governments involved would not reschedule the Polish debt. I don't think that there was any talk about what the private banks would do.

Now my understanding is that the private banks have been considering a rescheduling of the 1982 portion of the Polish debt. But that rescheduling would certainly not go into effect until the governments reschedule. For the moment, the governments have decided not to meet to reschedule. That is the decision that was taken at the NATO meeting.

Senator ARMSTRONG. That remains our position?

Mr. JOHNSTON. Yes.

Senator ARMSTRONG. As I understand it also, or at least as I recall it, it was the position of the administration that the limited sanctions which were imposed in December by the President in response to the Polish crisis, there was some thought, in fact, I be-

lieve that the President said that he would recommend or impose stiffer sanctions if martial law was not ended in Poland.

Am I correct about that?

Mr. JOHNSTON. Yes. There were two different statements, one where he said he would impose further sanctions if conditions continued to deteriorate in Poland. And in another statement I think he said that he would impose further sanctions if the conditions didn't improve. Or he would consider imposing further sanctions.

Senator ARMSTRONG. Does it appear in any way significantly that they have improved?

Mr. JOHNSTON. No; I don't think that they have been improving.

Senator ARMSTRONG. I think this is probably redundant, but maybe I should just ask it for the record. Can you contribute anything to the discussion of U.S. policy on human rights, particularly with regard to participation in financing or export of technology for projects that involve the use of conscript labor in violation of human rights?

Mr. JOHNSTON. I don't think that that has been an element that has entered into our policy. But so far as the gas pipeline is concerned, we are not allowing our goods to go, for whatever reason, whoever is doing the construction.

Senator ARMSTRONG. I was intrigued by your answer, which sounded reminiscent of what Mr. Brady said, that it simply was not a factor. Is that something that we routinely do not take into account? Or it just doesn't arise?

Mr. JOHNSTON. Well, there is a provision in the Export Administration Act which talks about foreign policy controls. And on the basis of that, we impose certain human rights controls, if you will.

Now those human rights controls essentially have been used in regard to products which the police or the military might use to repress crowds. We do not sell such products to the Soviet Union in the first place.

We have not, however, had a specific element of our policy which has to do with who is engaged in the labor on a specific project.

Senator ARMSTRONG. Thank you. One last question. What is the Administration's position going to be or is the Administration's position on the request of the Japanese government for an exemption from the ban on sale of energy technology to the Soviet Union with respect to the proposed Soviet-Japanese oil exploration project on Sakhalin Island.

Mr. JOHNSTON. We are looking at that request at the moment. As you know, the transaction is blocked because of our export controls. We have not come to any definitive decision on it.

Senator ARMSTRONG. Thank you, Mr. Johnston, and thank you, Mr. Chairman.

Mr. JOHNSTON. Yes.

Senator HEINZ. Senator Armstrong, thank you. Mr. Johnston, thank you very much. We appreciate your being here.

Mr. JOHNSTON. Yes, sir.

Senator HEINZ. Our last witness will be Mr. Edward J. O'Malley, Assistant Director of the Intelligence Division of the FBI. And let me just thank all our witnesses for their understanding and patience. I'm sorry, we've taken a little longer to get through things, but it's been an interesting hearing.

Mr. O'Malley, please proceed.

**STATEMENT OF EDWARD J. O'MALLEY, ASSISTANT DIRECTOR,  
FEDERAL BUREAU OF INVESTIGATION, INTELLIGENCE DIVISION**

Mr. O'MALLEY. Senator, it's my understanding that because of the time factor involved, you would prefer that I give my presentation and that we could meet later for the classified session.

Senator HEINZ. Yes. We will reschedule the closed session for later.

Mr. O'MALLEY. Thank you, sir.

[The complete statement follows.]

**STATEMENT BY EDWARD J. O'MALLEY, ASSISTANT DIRECTOR, INTELLIGENCE DIVISION,  
FEDERAL BUREAU OF INVESTIGATION**

Mr. Chairman and members of the Committee, it is a pleasure to appear before you today to discuss illegal technology transfer as well as FBI jurisdiction and efforts to prevent this transfer.

To understand the problems of this country's export control and counterintelligence communities' efforts to negate the drain or hemorrhaging of our traditional technological superiority, it is necessary to understand the philosophy behind the efforts expended, notably by the Soviets and their Eastern European surrogates, to acquire our advanced technology. Since the 1930's the Soviet Union has devoted vast amounts of its financial and manpower resources to the acquisition of Western, especially U.S. technology, that would enhance its military power and improve the efficiency of its military manufacturing technology. Today, this Soviet effort continues to be massive, well-planned and well-managed, a national-level program approved at the highest party and governmental levels. This program accords top priority to the military and military-related industry, and major attention is also given to the civilian sectors of Soviet industry that support military production. Major elements of the Soviet society, bureaucracy, and intelligence community play important roles in this acquisition process. Soviet foreign trade organizations, or enterprises, worldwide are partially subordinated to the Ministry of Foreign Trade, and their activities are closely coordinated by this Ministry in fulfilling their tasking assignments. Soviet academia, making full use of the multitude of exchange programs available to them in the United States as well as other Western countries, are tasked heavily to meet the nationally established military-related priorities. As I indicated, the Soviet intelligence services are also tasked heavily and respond with notable success worldwide.

The openness of our society makes the task all that much easier for those who wish to and do collect and more difficult for us to protect against such collection efforts. It must be within that openness, however, that we address any measures to limit our losses. We, in the Intelligence Community, acknowledge this, and yet we see important measures that can be taken.

The role of the hostile intelligence services is an important role, but their acquisitions are largely accomplished legally and overtly. We know, for instance, that they regularly obtain from the National Technical Information Service of the Department of Commerce large numbers of technical publications to meet their collection requirements. They are free to obtain memberships in many, if not most, of our technical associations, which include such benefits as access to technical conferences, symposia, journals and research publications. Additionally, such membership brings them in direct contact with those individuals who can benefit them most in a given field or expertise. We also know that exchange students and scientific delegations are tasked and debriefed by the hostile intelligence services for information related to their fields of expertise as well as to the identities of their contacts here that may be exploited in the future.

The FBI's responsibilities in this area of technology transfer are statutorily quite limited, yet the FBI can and does play an important role. The FBI not only investigates violations of the espionage statutes but also conducts activities against the clandestine acquisition of sensitive technology by hostile intelligence services. Espionage requires evidence that the compromised information or technology is related to the national defense and this has been further interpreted to mean U.S. classified information. The FBI also investigates violations of the Atomic Energy Act of 1954, but here again these violations involve either a loss of nuclear material or a compromise of classified information.

A major espionage investigation recently successfully prosecuted is that involving William H. Bell, a radar project engineer for a high technology U.S. defense firm. Bell was recruited by an identified intelligence officer of the Polish intelligence services who operated under cover as a vice-president of a Polish firm, Polamco, a subsidiary of the Polish Government which is incorporated in Delaware and operates in Illinois. This recruitment began as a simple friendship between neighbors. This friendship was exploited by the Polish intelligence officer when it became known that Bell was financially pressed. A classic espionage case developed utilizing such sophisticated equipment and methodology as microfilming and third-country meetings. Bell, during the trial, identified over 20 significant classified reports on future U.S. weapons systems that he passed to his agent over a three year period and for which he was paid over \$110,000.

From a counterintelligence standpoint, an important factor is public awareness of the problem of technology transfer. We promote this awareness by way of a broad-based program aimed at the industrial complex of this country involved in classified contracts. Briefings are given by our Director, myself, as well as supervisory and agent personnel throughout the U.S. and are aimed at senior management personnel, company security officials, all employees involved in classified contracts.

There are certain other criminal statutes for which the FBI has the primary investigative role which also are impacting on technology transfer. Specifically, I am referring to the Theft from Interstate Shipment statute. This particular statute is handled by our Criminal Investigative Division and we in the Intelligence Division monitor such cases on a continual basis to determine whether or not there may be any involvement by the hostile intelligence services or there may be diversion of stolen technology to a communist country.

Technology Transfer generally implies a violation of either the Arms Export Control Act or the Export Administration Act of 1979. Under the provisions of 28 CFR (0.85(a)) the FBI has the authority and responsibility to investigate all violations of federal law not specifically assigned to another federal agency. The State Department administers the Arms Export Control Act and utilizes the U.S. Customs Service to investigate violations of this Act. The responsibility for enforcing the Export Administration Act, of course, has been assigned, by the statute, to the Department of Commerce.

The FBI's major contribution to the Technology Transfer issue comes in the pursuit of its foreign counterintelligence investigations. Under Executive Order 12333, the FBI conducts counterintelligence within the United States and coordinates counterintelligence activities of other agencies within the Intelligence Community. If, during the course of these foreign counterintelligence investigations, information is developed that a principal of an investigation is involved in illegal technology transfer activities, this information is easily integrated into the ongoing counterintelligence investigation. The FBI also coordinates with the responsible export control agency in order to determine if the technology is indeed embargoed. If, during the course of foreign counterintelligence investigations, information concerning illegal technology transfer is developed which does not have foreign counterintelligence implications, this information is disseminated to the proper export control agency for its investigative use.

In practice, it is sometimes difficult to judge whether illegal technology transfer activities have foreign counterintelligence implications or if it is a matter of simple greed on the part of an exporter. Normally issues involving investigative interest and jurisdiction can be resolved by the responsible export control agency and the FBI. If a conflict should occur, the matter can be resolved in the newly formed Export Control Working Group chaired by the Department of Justice. This working group has not yet had to resolve any such problems but it serves as an excellent forum for interested agencies to exchange information.

As far as resources are concerned, the FBI has no resources dedicated to export control. The FBI has no regulatory function in export control; it does not monitor normal export traffic nor does it have a voice in determining what technology should be proscribed to whom. The FBI does not need additional resources to meet its limited responsibilities in export control. However, our responsibilities in the technology transfer area are addressed during the course of foreign counterintelligence or other authorized investigations and the resources applied here are significant.

The FBI has observed an increasing trend toward third country diversions of U.S. technology. The FBI has liaison with various law enforcement and intelligence agencies abroad. This liaison has produced several interesting counterintelligence leads involving possible clandestine attempts to acquire U.S. high technology. Continued cooperation with friendly counterintelligence services could produce some signifi-



cant intelligence concerning hostile modus operandi and further enhance our efforts to stop the illegal flow of Western technology to the Soviet Union.

Senator HEINZ. Mr. O'Malley, thank you very much. With respect to technology transfer, does the FBI have enough in the way of resources to do its task?

Mr. O'MALLEY. Mr. Chairman, as I indicated in my statement, in that area as defined as export control, which is, as you well know, defined in the Export Administration Act, we have no responsibility. However, as I did indicate, in the counterintelligence field and in the criminal field, we do have a responsibility in terms of the theft of this technology and our resources that we apply in the counterintelligence field are substantial, but they are classified and I'd be happy to give those figures to you in closed session.

Senator HEINZ. Very well, I've got no further questions at this point.

#### SOVIET INTELLIGENCE ACTIVITIES

Senator ARMSTRONG. Mr. Chairman, I'd like to ask Mr. O'Malley, whether or not, based on his work, he thinks that the television accounts that we've been seeing the last few days about the Soviet intelligence activities in Washington are a pretty accurate depiction of what's going on? I think it's channel 7, but it's one of the channels that is carrying a series of reports in which they make it pretty clear that action central for Soviet intelligence is Capitol Hill, that they're up here day and night. Any time there is something going on, they're here just gathering information? Is that true?

Mr. O'MALLEY. That is true, but I wouldn't limit their interest to the Washington, D.C. area.

Senator ARMSTRONG. I understand that.

Mr. O'MALLEY. They have a heavy presence here and they do appear here on the Hill and, in fact, although he has every lawful right to be here because this is a public hearing, there is a Soviet official sitting in the audience at this moment.

Senator ARMSTRONG. I am well aware of that. That's why I asked you the question because he showed up in my office recently when I decided to have a news conference on this subject. I have long thought that any time there was a matter of sensitive interest involving defense or economic policy or anything that really is of strategic consequence, I had always assumed that there was a representative of the Soviet Government present, whether it was in a committee hearing or in the gallery or whatever it is.

In fact, I once jokingly accused a gallery assistant of being a KGB agent. He asked why and I said, and I didn't know who he was at the time. I've learned since. But I accused him of this in jest because he was the only one who was willing to sit through all of the protracted discussion of the defense bill. [Laughter.]

I guess I'm pleased to learn that your information was sufficient that you already knew that there was a Soviet official in the room and I think I'll end my line of questioning there and not ask you how you knew it, whether there's more than one.

Mr. O'MALLEY. I'd be happy to discuss that entire subject in closed session with you.

Senator ARMSTRONG. Perhaps that would be appropriate. But I appreciate your responding. In general, it is your testimony, however, that the publicly portrayed notion that there's a lot of intelligence gathering going on in what you have described rightly as a perfectly lawful, but nonetheless, significant, manner on Capitol Hill is correct.

Mr. O'MALLEY. That's absolutely correct.

Senator ARMSTRONG. Thank you, Mr. O'Malley. Thank you, Mr. Chairman.

Senator HEINZ. Well, I want to compliment the Senator from Colorado. I was going to ask the representatives of the Soviet Government to stand up. But since that's been already essentially done, I won't do that. So I thank the Senator for his perceptive observation.

Senator ARMSTRONG. I think the point, Mr. Chairman, is this. And I emphasize what Mr. O'Malley has emphasized, that they have every lawful right to be here. In fact, when the representative of the Soviet Embassy presented himself at my office when I was having the news conference, he identified himself properly and asked if he was permitted to stay. And I said, yes. This is a quasi-public meeting and you're welcome, although you're not going to like what you're about to hear.

The point it emphasizes, however, is really central to the policy issue that we're discussing in this hearing today. We are an open society and clearly, we don't want to do anything to jeopardize that. So it means at the very outset that we forfeit certain advantages of secrecy that are just inherent in the Soviet system or in any closed society.

But having already forfeited all of that, when we lay out our budget, much of our military planning in the congressional budgeting process, when we have scientific journals that are just chock full of sensitive, if not highly secret, information, it just underscores that the very small number, really the tiny number, of things that we truly try to keep secret and the small amount of U.S. technology that we regard as secret, that we must be very cautious about having given away 95 or 98 percent, of truly safeguarding very carefully that last 2, 3, 4, 5 percent that can make such a crucial difference.

Senator HEINZ. Mr. O'Malley, thank you very much for your appearance. One of the reasons I want to get together with you in closed session later is I think there will be other members of the committee who will be interested in doing that who couldn't be here with us this late.

So I thank you for your understanding and your patience, both.

Mr. O'MALLEY. Thank you.

Senator HEINZ. Our hearing is adjourned.

[Whereupon, at 1:40 p.m., the hearing was adjourned.]